



GOVERNMENT OF NORTHERN IRELAND

Fourth Annual Report
of the
Ministry of Agriculture
1924-25

*Presented by Command of
His Grace the Governor of Northern Ireland*

BELFAST :

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Cmd. 56

IMPERIAL SECRETARY'S DEPARTMENT,
NORTHERN IRELAND,

28a, SCOTTISH PROVIDENT BUILDINGS,
BELFAST.

27th January, 1926.

Sir,

I have to acknowledge the receipt of your letter of January 27th forwarding for submission to His Grace the Governor the Fourth Annual General Report of the Ministry of Agriculture for Northern Ireland.

I am, Sir,

Your obedient Servant,

S. G. TALLENTS,

Imperial Secretary.

The Secretary,
Ministry of Agriculture,
Wellington Place,
Belfast.

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GOVERNMENT OF NORTHERN IRELAND

FOURTH ANNUAL REPORT OF THE MINISTRY OF AGRICULTURE.

TO HIS GRACE, JAMES ALBERT EDWARD, DUKE OF ABERCORN, K.P.
GOVERNOR OF NORTHERN IRELAND.

May it please Your Grace,

I have the honour to submit the fourth annual general Report of the Ministry of Agriculture for Northern Ireland.

The Report, which covers the Ministry's operations from the 1st October, 1924, to the 30th September, 1925, is divided as follows :—

1. Advisory Committees.
2. Finance.
3. Agricultural Education.
4. Agricultural Loans.
5. Research.
6. Special Experiments.
7. Marketing and Transit of Produce.
8. Agricultural Schemes.
9. Agricultural Laws.
10. Flax and Potato Industries.
11. Forestry.
12. Statistics and Intelligence.
13. Surveys.

I. ADVISORY COMMITTEES.

Meetings of the Ministry's advisory committees were held as follows during the past year :—

Consultative Committee 19th May, 1925.

Advisory Committees.

Horses	...	4th February, 1925 ; 6th May, 1925.
Cattle	...	17th December, 1924 ; 7th May, 1925.
Pigs	...	8th May, 1925.
Sheep	...	20th February, 1925. 6th May, 1925.
Marketing of Eggs		4th November, 1924.
Flax	...	22nd July, 1925 (to inspect the Ministry's flax plots at Stormont).

The following changes in the personnel of the various committees were made during the year :—

Consultative Committee—Mr. John Johnston, Mountjoy East, Omagh, was nominated by the County Tyrone Committee of Agriculture in place of Mr. P. Cunningham, Omagh. Sir B. S. Brooke, Bart., D.L., Colebrook, Brookeborough, was

appointed by the Ministry in place of the late Rt. Hon. H. DeF. Montgomery, D.L., Blessingbourne, Fivemiletown.

Cattle—The Royal Ulster Agricultural Society nominated Mr. R. D. Best, The Cairn, Aghalee, Lurgan, in place of Mr. A. Cameron, Cookstown.

Pigs—The following representatives of the bacon curing industry were added to this committee:—Messrs. R. J. M'Closkie, of Messrs. Biggars, Ltd., Londonderry, and James Mark, of Messrs. Mark, Roulston and M'Loughlin, Londonderry.

Sheep—The Royal Ulster Agricultural Society nominated Mr. James Milling, Aureen, Comber, as representative in place of Mr. F. W. Gorman Best, Lurgan.

Flax—The Executive Committee of the Ulster Farmers' Union nominated Mr. Wm. Ewart, J.P., Ganaway, Millisle, as representative in place of Mr. R. Gregg, Ballymena.

Education Act (Northern Ireland), 1923.

By Order in Council dated 29th May, 1925, under Section 79 of the above Act, the provisions of the Act relating to the training and certification, terms of employment, remuneration and superannuation of teachers were made applicable to teachers in agricultural subjects.

Regulations governing these matters were accordingly drawn up by the Ministry, and after consultation with the Ministry of Finance were presented to Parliament on the 1st September. They will have statutory effect when they have lain for ten days on the table of both Houses of Parliament. Under these regulations scales of salary appropriate to the grade in which their actual duties enable them to be placed are laid down in the case of all permanent full-time teachers whether employed by county committees of agriculture or at agricultural institutions managed by the Ministry. The scales, which are fixed for a period of five years beginning on the 1st April, 1925, are subject to revision at the end of that period. The payment of cost-of-living bonus will be discontinued as from the 1st April, 1925.

A superannuation scheme applicable to both agricultural and technical teachers has been framed by the Ministry of Finance after consultation with the Ministry of Agriculture and the Ministry of Education.

2. FINANCE.

Pro forma accounts of expenditure during the financial year, 1st April, 1924, to 31st March, 1925, are shown in the appendices pages 104 to 110 inclusive

Expenditure generally, including that incurred through county committees of agriculture, may be summarized under the following broad heads :—

Agricultural Research (including capital expenditure)	£14,901
Agricultural Education (including capital expenditure)	49,264
Live Stock Schemes (including Poultry)	20,456
Flax and Potato Industries	8,627
Forestry	4,486
Marketing of Agricultural Produce	3,170
Seed Supply Schemes	2,201
Collection of Agricultural Statistics	2,160
Dairying Industry	2,134
Subsidies to Shows	1,529
Miscellaneous Agricultural Services	948
Ordnance and Geological Surveys	8,525
General Expenses	37,636
Total	<u>£156,037</u>

This expenditure was, for the greater part, defrayed from Votes of the Parliament of Northern Ireland. A contribution of £10,110 was, however, made from local rates, being the produce of a rate of one penny in the pound levied by the several county councils for the purposes of agriculture and other industries in accordance with section 78 (1) of the Education Act (Northern Ireland), 1923. The provisions of the Act in regard to this penny rate, which is the minimum rate prescribed to be levied for the purposes mentioned, took effect for the first time in the financial year under review.

The Parliamentary Votes included a special grant of £14,925, being a further instalment of the sum of £54,000 which, as stated in the Ministry's third report, has been made available by the Government for the acceleration of agricultural development in certain directions.

3. AGRICULTURAL EDUCATION.

In most countries in which agriculture is an industry of importance increased attention has been devoted in recent years to the question of the provision of agricultural education. It has been recognized that as in the case of other industries, the development of agriculture is dependent to a very large extent on the adoption of up-to-date methods by those engaged in the business of farming, and that the attainment of a higher all-round level of farming can be brought about only through the medium of a system of agricultural education graduated to suit the requirements of every section of the farming population. There can be no doubt that real progress in the methods of farm practice in Northern Ireland has been achieved as a result of the varied facilities for obtaining agricultural education which have been

made available to the farming community through the medium of the county schemes of instruction in agriculture, horticulture, poultry-keeping and butter-making. The instructors employed under these schemes are required to possess a sound practical and scientific knowledge of the particular branch of agriculture taught by them, and through the media of their lectures and visits the most valuable information as to farming methods is brought as it were to the door of every one engaged in any aspect of farming. Another highly valuable feature of the work of these instructors is the holding of courses of instruction at selected centres for farmers' sons and daughters, at which a rudimentary scientific training, which can be put into practice by the students in connexion with their ordinary farming work, is provided. The work carried out by these instructors constitutes the basis of the Ministry's system of agricultural education.

The special development grant of £16,800, portion of the sum of £54,000 made available by the Government in 1923 covering a period of four years, which was allocated for the purposes of agricultural education, permitted the employment by local authorities throughout the year under review of an additional staff of 2 instructors and 10 overseers, who were appointed in 1924.

Provision for the next stage in the system so far as agriculture and horticulture are concerned is made at the Greenmount Agricultural and Horticultural College, Muckamore, County Antrim, and, as regards poultry-keeping and butter-making and rural domestic economy, at the Ulster Dairy School, Cookstown, and the North-West Agricultural School, Strabane. These schools are primarily intended for the training of young men and women who intend to return to their homes and apply there the knowledge acquired in the development of their farming, poultry-keeping or dairying pursuits. An advanced course of training is, however, obtainable at the Ulster Dairy School for girls who specialize with a view to becoming instructors or teachers, while the course of instruction at the Greenmount College constitutes a suitable preparation for a student desirous of entering the agricultural faculty at The Queen's University of Belfast. The facilities for training both from a practical and scientific point of view available at both schools are fully equal to that provided at any similar school in Great Britain. The system of agricultural education for young men in Northern Ireland has been completed by the establishment of an agricultural faculty at The Queen's University of Belfast. On the successful completion of a four years' course of study in this faculty, in which more advanced training in the sciences allied to agriculture is provided, students will be eligible for the Degree of Bachelor of Agriculture.

Scheme of Itinerant Instruction in Agriculture.

The administration of this scheme was carried out on the lines of the previous year. Ten instructors, including two for whom

provision is made under the temporary grant for agricultural development, were employed throughout the year.

The following table affords information as to duties carried out by the instructors :—

County	Instructors employed	Farms visited	Lectures delivered	Attendance at lectures	No. of Field experiments carried out	No of demonstrations laid down
Antrim	2*	779	12	436	30	95
Armagh	1	495	8	124	18	79
Down	2	856	13	525	26	67
Fermanagh	1	535	34	619	8	54
Londonderry	1	418	2	37	14	83
Tyrone	3*	1401	15	755	30	302
Total	10	4484	84	2496	126	680

*Includes instructors employed under the development grant.

In county Antrim an agricultural overseer and an expert in potato cultivation were employed in addition to the officers mentioned in above table. The number of visits paid to farms by these officers were 959 and 644, and the number of demonstrations laid down were 103 and 22 respectively.

As in the previous year ten additional agricultural overseers were employed under the agricultural development grant. A very large number of farms were visited and advice given, and in addition numerous demonstration plots with seed mixtures, manurial mixtures, varieties of crops, etc., were laid down by these overseers. Details in regard to the duties under these heads carried out in the different counties are given in the following table :—

County	Overseers employed	Farms visited	No. of demonstrations laid down
Antrim	1	971	94
Armagh	1	766	55
Down	2	1348	100
Fermanagh	2	1956	164
Londonderry	2	1247	273
Tyrone	2	1653	270
Total	10	7941	956

Particulars in detail of the work assigned to agricultural instructors are set forth in scheme No. 8, a copy of which may be found at pages 18 to 20 of the appendices of Ministry's report for 1922.

Winter Agricultural Classes.

The operations of the scheme were conducted on lines similar to those in force in the previous year. There was an increase of five in the number of centres at which classes were held as com-

pared with the preceding year, 288 students in all receiving instruction. The following table sets out in detail the centres at which the classes were held and the number of students enrolled at each class :—

County.	Centre.	Number of Students Enrolled.
Antrim	Cushendall	17
"	Dervock	13
"	Ballyclare	15
"	Randalstown	14
Armagh	Killynure	10
"	Mountnorris	8
Down	Donaghadee	10
"	Drumbo	7
"	Hilltown	17
"	Loughbrickland	16
Fermanagh	Gortgorgan	8
Londonderry	Innisrush	28
"	Mayogall	30
Tyrone	Carrickmore	25
"	Kell (Clogher)	16
"	Donaghedy	15
"	Douglas Bridge	15
"	Carnteel	11
"	Coagh	13

In addition to the ordinary course of instruction in agriculture, lectures in veterinary hygiene were delivered at the classes in four counties and in horticulture at the classes in five of the counties.

Particulars of this scheme are to be found at pages 21-24 of the appendices to the Ministry's annual report for 1922.

Agricultural Experiments.

This scheme, particulars of which are given at pages 111 to 116 of the appendices to this report, was in operation in each county. The scheme did not differ materially from that which was carried through in 1923-24; the only changes being the starting of a new experiment to compare different mixtures of seeds for hay and pasture, the discontinuance of the variety test with white and black oats and the substitution, therefor, of a test to ascertain the suitability of different varieties of white oats for the better and poorer classes of soils. The liquid manure experiment and the turnip experiment with phosphatic manures were also discontinued.

The following table gives the number and nature of field experiments undertaken during the period under review :—

Experiments	Manurial Experiments	Variety of Seeds Experiments	Mixtures of Seeds Experiments	Residual Value Experiments	Others	Total
Potatoes	8	27	—	—	—	35
Turnips	11	13	—	—	—	24
Mangels	—	9	—	—	—	9
Oats	1	24	—	—	2*	27
Wheat	1	3	—	—	—	4
Barley	—	—	—	—	—	—
Hay	7	—	17	—	—	24
Wild White Clover	—	—	—	3	—	3
Totals	28	76	17	3	2	126

*Charlock Spraying Test.

Rotation experiments except those commenced during the past season are not included in above statement.

Horticultural Experiments.

Particulars of the scheme of horticultural experiments in operation during the period under review will be found on pages 118 to 120 of appendices to this report.

The following table gives particulars of the number and nature of the experiments carried out in each county by the instructors in horticulture :—

County	Ovicidal sprays	Apple scab	American gooseberry mildew	Manuring of apple trees	Acarine disease in bees	Total
Antrim	3	2	3	2	1	11
Armagh	4	2	2	2	3	13
Down	4	2	4	1	2	13
Fermanagh	—	—	—	—	—	—
Londonderry	2	1	1	—	1	5
Tyrone	1	1	—	—	—	2
Totals	14	8	10	5	7	44

Live Stock Experiments.

“Baby” beef experiments to obtain information as to the possibilities for early maturity for the production of “baby” beef were carried out at seven centres. No experiments of this nature were undertaken in Armagh or Fermanagh.

A pig feeding experiment to compare wet and dry feeding was initiated and carried out at eight centres. An experiment of this nature was undertaken in each county except Londonderry.

Results.

Many experiments outside the scope of the official scheme were carried out by the instructors in agriculture and horticulture, and the results, together with the results of the official schemes, appear in the annual reports of the several county committees of agriculture.

Demonstrations.

As indicated previously in this report field plots were largely utilized by the instructors in agriculture to demonstrate the results of the use of suitable varieties of seeds and manures, and there can be no doubt that these plots afford a most suitable means of bringing to the notice of farmers the advantages arising from modern farming methods. This aspect of field work received special attention from the overseers appointed under the development grant, and this was particularly important owing to the fact that these overseers were located in the more backward districts where many of the farmers had not previously had an opportunity of gaining information of this nature. In all 1,081 demonstration plots were laid down, and, as in the previous year, these related mainly to grass seed mixtures, the application of phosphates to pasture, the liming of land and varieties of different crops, particular attention being directed to the laying down of plots of wild white clover and to the manuring of pasture with phosphates.

Improvement of Pastures.

During the period under review special attention was directed to the laying down of wild white clover and phosphatic manure plots, in connexion with which a special grant of £2,880, to cover a period of four years, was made in 1923. In all 814 plots were laid down, as compared with 777 in the previous year, the cost of each plot being limited to £1. Particulars as to the number of plots laid down in each county are contained in the following table :—

County	Wild White Clover		Phosphatic Manures 3 1/2%	
	Number of Plots		Number of Plots	
	1923-24	1924-25	1923-24	1924-25
Antrim	88	35	92	74
Armagh	50	18	37	37
Down	71	75	—	89
Fermanagh	42	33	91	74
Londonderry	77	53	63	68
Tyrone	108	128	58	130
Totals	436	342	341	472

Very satisfactory results have been obtained from the use of phosphatic manures, and as a result of the demonstration plots farmers have been encouraged to purchase and apply phosphatic manures with a view to improving their pastures.

Various types of phosphatic fertilizers have been applied to the demonstration plots, and it is hoped to summarize the results and to embody them in a publication regarding the purchase and use of phosphatic fertilizers.

The advantage of the use of wild white clover in the improvement of pasture is also becoming apparent through the medium of these demonstration plots.

Greenmount Agricultural and Horticultural College.

The reconstruction and extension of the school buildings, laboratories, etc., have been completed.

As in the previous year scholarships tenable at this college were offered for competition by each county committee of agriculture in Northern Ireland. The applicants were submitted to a written and oral examination by the Ministry with a view to ascertaining their suitability for admission to the course of instruction at this college. As a result of this examination thirty students, all of whom were scholarship holders, were admitted to the session, which opened on the 28th October, 1924, and terminated on the 1st August, 1925.

The students were drawn from the various counties as follows : Antrim 9, Armagh 2, Down 9, Fermanagh 1, Londonderry 5, Tyrone 4.

Of the thirty students, twenty-seven took out the agricultural course and three the horticultural course.

Full particulars as to the course of instruction afforded at the college are given at pages 25-33 of the appendices to the Ministry's first annual general report.

University Scholarships.

The examination for the award of the scholarships in agricultural science offered annually by the Ministry for competition amongst matriculated students who desire to enter the agricultural faculty of The Queen's University of Belfast was held in October, 1924. Five scholarships, each of the value of £100 per annum, were awarded, but as one of the successful candidates left the country shortly afterwards only four of these scholarships were actually taken up. During the year there were thus ten holders of the Ministry's scholarships in training at the Queen's University, viz., four first year students and six second year students, all of whom completed their year's course of studies satisfactorily. These ten scholarships have, accordingly, been renewed for a further year. In addition to these ten students there were five other students pursuing their studies in the Queen's University with a view to proceeding to a degree in agriculture, four of these holding scholarships from the Gibson Trust.

Ulster Dairy School.

Judging by the increased demand for admission to this school, it is clear that the training provided thereat is held in high estimation by the farming community. The courses are comprehensive and of a sound practical nature, enabling those who have completed a course to return to their homes and put into practice the principles acquired while under training.

During the period 1st October, 1924, to 30th September, 1925, 110 girls, of whom 25 had entered during the previous year, received instruction at the school. The fees for 36 of these pupils were defrayed from the Anne Hall Endowment, by the terms of which free tuition, etc., is provided for girls from counties Fermanagh and Londonderry. The training of 88 girls was concluded, 36 having been in attendance for one term, 10 for two terms, 27 for three terms, and 15 for four or more terms.

Thirty-nine girls qualified for the award of certificates, and three students desirous of qualifying for the position of instructor in poultry-keeping and butter-making were, with a view to enabling them to gain further practical experience, afforded an opportunity of taking out a course of twenty weeks' duration at a poultry farm in Northern Ireland approved by the Ministry. During the year two girls qualified for the award of creamery apprenticeships.

The following table gives the number of pupils in attendance at each session :—

<i>Term.</i>	<i>Attendance.</i>
7th October—23rd December, 1924	50
6th January—20th March, 1925	49
31st March—12th June, 1925	50
14th July—25th September, 1925	44
Total	193

During the year upwards of four hundred members of the farming community and others visited the school and were much impressed and greatly interested by the work in progress.

North-West Agricultural School.

At this school, which is situated near Strabane, there is accommodation for 24 resident pupils. An extensive course of instruction is provided in poultry-keeping, butter-making and rural domestic economy subjects. The average duration of the course is 10½ weeks, and scholarships worth approximately £8 each are provided in connexion with each course by all county committees of agriculture in Northern Ireland.

There has been an increased demand for admission to the courses of training at this school during the past year, and there is every evidence that the facilities for instruction available at the school are becoming more widely appreciated.

The appended table shows the attendance of pupils at the school :—

<i>Term.</i>	<i>Attendance.</i>
7th October—23rd December, 1924	24
6th January—20th March, 1925	18
31st March—12th June, 1925	20
14th July—25th September, 1925	17
Total	79

Particulars of the courses of instruction at the foregoing two schools will be found at pp. 33-35 of the appendices to the Ministry's annual report for 1922.

Educational Exhibits.

As in previous years educational exhibits demonstrating the Ministry's work in connexion with many of the important aspects of farming were staged at the summer show of the Royal Ulster Agricultural Society held at Balmoral on 28th and 29th May, and at the North-West of Ireland Agricultural Society's show held at Derry on 24th and 25th June. These exhibits attracted considerable attention, and were favourably commented upon by the large concourse of visitors which thronged the halls in which they were staged.

In the main agricultural section of the exhibit prominence was given to the formation of good pastures and to the improvement of existing poor pastures. Miniature plots showing the effect on pasture of the use of good seeds mixtures and of the application of phosphates were on view.

Particular attention was devoted to the potato and flax crops. In the former the steps which are essential for the maintenance of our export trade were emphasized. Maps showing the relative geographical position to Great Britain of other potato exporting countries and figures showing the amounts of potatoes these countries export to Great Britain were displayed. In the flax section the work of the Ministry in regard to the securing of improved strains of flax was indicated by exhibits and diagrams.

The feeding of the different classes of live stock also received considerable attention. Specimen rations for pigs, calves, baby beef cattle and dairy cattle were exhibited, and an effort was made to give practical instruction in the making up of suitable rations.

Linked up with the feeding of cows was an exhibit demonstrating the advantages of keeping milk records. Several lots of calves which had been fed for baby beef were on view, as were also lots of calves of the same age which had been fed as stores during a similar period. These calves created intense interest, and were of considerable assistance in helping feeders to decide as to which is the more profitable system of feeding.

Object lessons in the feeding of calves and pigs were provided by further lots of animals which had been fed under experimental conditions on cooked and raw foods respectively.

In the poultry section poultry keepers found much to interest and instruct them. Comprehensive exhibits relating to the raising and feeding of chickens were staged, and particular attention was also given to the housing of poultry, to the selection of laying hens and to the culling out of the bad producers.

The horticultural section was mainly devoted to exhibits relating to the suppression of the attacks of insect and fungus pests of fruit trees. Practical exhibits illustrating the art of pruning

fruit trees were arranged, while the bottling of fruit was the subject of actual demonstrations which were equally popular with both country and city visitors.

In the dairying section the value of milk as a food was emphasized, and actual methods of producing milk that will keep sweet for several days were demonstrated.

A complete exhibit designed to assist egg producers and shippers in realizing the importance of improving the egg industry was staged in the marketing section. In this exhibit the approved methods and appliances necessary for the progress of the egg-export trade were displayed. The serious competition of foreign countries in the British markets was also effectively illustrated.

The handling of wool was a subject which received considerable attention. Demonstrations were given by an expert showing how fleeces should be cleaned, rolled and marketed so as to obtain the best monetary returns.

The various research divisions of the Ministry were represented by exhibits relating to plant breeding, plant diseases, seed testing, animal diseases, etc.

In the section arranged by the plant breeding division exhibits demonstrating the object and progress of the work in this division were staged, as were also labelled specimens of the various species of cereals.

A comprehensive exhibit including practical demonstrations in the modern methods involved in the testing of farm seeds was provided by the seed testing division. The exhibit of this division also included a practical and interesting display which illustrated the advantage to the farmer of having seeds tested. The plant disease division exhibited specimens illustrating the effect of diseases in various crops. Special attention was directed to the diseases of potatoes, flax, turnips and apples, and the progress made in the suppression of the common and important diseases of these crops was indicated; the effects of the diseases on crop yields and the treatment and prevention of such diseases were suitably illustrated and indicated.

An exhibit by the animal diseases division illustrated by means of suitable specimens some of the common diseases and affections of farm stock including cattle, sheep, pigs, and poultry.

An exhibit illustrating the educational facilities available was provided by the Ulster Dairy School, Cookstown. This exhibit included specimens of the work done by the school pupils in the various subjects taught, including poultry-keeping, dairying and domestic economy. Demonstrations in the making of different varieties of cheese were given each day by pupils of the school.

Valuable assistance in demonstrating to visitors the various exhibits was rendered by the instructors employed by the several county agricultural committees.

4. AGRICULTURAL LOANS.

(a) *Purchase of Bulls.*

In two cases during the year loans for the purchase of premium bulls were granted to applicants who procured animals at one of the spring shows and sales recognized by the Ministry for the selection of bulls for premiums under the general cattle breeding scheme.

A copy of the conditions governing the granting of the loans will be found at pages 132-134 of the appendices. It should be understood that such loans are granted in very exceptional circumstances only.

(b) *Purchase of Agricultural Machinery.*

With the approval of the Ministry of Finance a scheme was formulated under which loans for the purchase of agricultural machinery and implements could be granted to farmers. One such loan for the purchase of a tractor has been granted. The terms on which loans are granted are set out at page 134-135 of the appendices.

(c) *Erection of Silos.*

It was further decided by the Ministry of Finance to consider applications from farmers for loans towards the cost of erecting wooden or concrete silos of a type approved by the Ministry of Agriculture, whose recommendation of each application is required in the first instance. The amount of the loan granted in any case does not exceed 75% of the total cost of the silo. The maximum loan which may be granted under this scheme is £1,000 and the minimum £100, the loan in the case of wooden silos being repayable in not more than 10 years, and in the case of concrete silos in not more than 20 years, by equal annual instalments. One such application was recommended by the Ministry during the year.

(d) *Minor Land Improvements and Erection of Small Farm Structures.*

A scheme was inaugurated by the Ministry of Finance in consultation with this Ministry under which farmers could obtain loans for—

- (1) The erection and improvement of minor farm structures, including
 - (a) Small dairies, byres, piggeries, etc;
 - (b) Small iron hay barns, small granaries and fruit stores of approved design;
 - (c) Wire fencing of approved design.
- (2) Equipment for poultry farms, including
 - (a) Purchase or erection of houses of approved design;
 - (b) Construction of runs;
 - (c) Purchase of approved apparatus and equipment.

The maximum loan which may be granted under this scheme is £100 and the minimum £20. Repayments are to be made by equal annual instalments over a period not exceeding five years. The present rate of interest is $5\frac{1}{8}\%$.

(e) *Live Stock Replacement Loans.*

In accordance with the decision of the Government, which was notified in the House of Commons on the 28th May last, arrangements were made for the granting of short-term loans to bona-fide farmers who had incurred losses of live stock during the previous winter, and who wished to replace these losses. Operations under the scheme were commenced towards the end of June, and applications were accepted up to the end of September.

One thousand two hundred and eleven applications, representing a total of £70,230, were received, and of these 1,014 applications were approved, involving a total advance of £46,551.

5. RESEARCH.

Chemical Research and Animal Nutrition Division.

The main features of the work of the division were similar to those recorded in the last annual report. Some of the earlier investigations, for example, the work on silage and new nitrogenous fertilizers, were completed, and the opportunity thus afforded was utilized to extend the investigations already in hand under the general heading of animal nutrition. Competition in the markets in which animals and animal products from Northern Ireland are sold has increased considerably, and, as a consequence, information and advice is being sought by farmers on many animal problems, the solution of which is now of first importance.

Phosphates.—In the last annual report it was indicated that the work with various new types of phosphatic fertilizers was nearing completion. The problem has now been narrowed down to the point of ascertaining whether still finer grinding of rock phosphates than is usual in practice will increase their availability. For this purpose a series of experiments were laid down during the past year on the potato and turnip crops. The main object of the investigation was to ascertain whether an effective substitute could be obtained for high grade basic slag, the supplies of which were steadily diminishing. During the past three or four years the supply of high grade basic slag from England and Scotland has practically ceased, and Northern Ireland supplies have been obtained from Belgium. Owing to unsettled conditions in the Belgian steel trade in the summer of this year no supplies of basic slag will be forthcoming from Belgium during the coming winter and spring. It is therefore some consolation to be able to record that the experiments carried out by the division during the past four years show that ground North African phosphates,

and Peerless basic phosphate may be counted upon effectively to take the place of slag, and further, that ground North African phosphates have the advantage of providing an appreciably cheaper phosphatic fertilizer.

Soils —Some time has been devoted to an examination of the conditions which make it impossible for farmers over large areas of Fermanagh to obtain a stand of clover, whether of the "wild white" or other varieties. The results of pot experiments show that lack of suitable phosphates and of adequate drainage are the main factors involved. In some cases there is evidence that applications of potash in conjunction with phosphates would be helpful, while in one or two instances lack of lime appeared to be an inhibiting factor.

The suggestion is made that when land is being sown down with a seeds mixture it would be worth while when ploughing for the nurse crop—oats—to set the land up in 7ft. 6in. ridges with water furrows between the ridges, the ridges, of course, running up and down the natural slope of the field. By so doing it would be possible to improve considerably the drainage, and at the same time enhance the prospects of good results from the application of phosphatic and potassic fertilizers. Similarly with permanent meadows, the opening of water furrows diagonally across the natural slope of the field and the cleaning out of ditches would very materially assist surface drainage and render it possible to improve these meadows by the application of artificial fertilizers.

Nitrogenous Fertilizers.—Investigation into the value of some new types of nitrogenous fertilizers has been concluded, and a report on this work is in course of preparation. It is worthy of note that an effort is now being made to place synthetic urea on the market on a commercial scale. For experimental purposes the division was able to secure only small quantities after considerable trouble, and it may be necessary later to repeat some sections of this work on a more extensive scale.

The co-operation of the division with the seed testing division in an investigation designed to ascertain the effect of various types and combinations of types of artificial fertilizers on the quantity and quality of grass seeds is being continued. The initial results were of an unexpected nature, and give promise of producing results of considerable economic importance.

Animal Nutrition.—The completion of the investigations on silage and the various fertilizer problems has made it possible to give more attention to animal nutrition problems. The organization and development of the work are, however, beset with many more practical difficulties than those associated with field experiments. It is a very difficult matter on the small farms of Northern Ireland to secure the requisite number of animals or the essential experimental conditions, hence it is impossible to plan a definite scheme of investigations. If rapid progress is to be

made in these important problems a central experimental farm is essential. The best that can be done at present is to seize the opportunities which arise principally from advisory queries and make the most advantageous use of them.

An endeavour has been made during the past year to devote some time to pig problems, and some highly encouraging, and it is hoped valuable, results have been obtained.

The effect of nutritional deficiencies in the number and vitality of litters.—This investigation arose as the result of an advisory query and a request for assistance in overcoming the difficulties which were being experienced. The problem is one which frequently occurs when pigs are kept on an extensive scale. On the farm in question a number of breeding sows were kept, and a large herd of from 200 to 300 fattening pigs. The breeding results were most unsatisfactory, the average number of pigs per litter at birth having been reduced to 7 and the average number at weaning to less than 3. Preliminary investigation showed that the trouble was not due to an inferior boar or to improper treatment of the sows. Amongst other items, the fact that with such a large herd of pigs the supply of separated milk available was negligible pointed to the probability of a mineral deficiency in the diet. The farmer was persuaded to retain the defaulting sows in order that they might provide the basis of an attempt to solve the problem. A mineral mixture containing several ingredients was incorporated in the diet of all the sows, their past breeding records were collected, and the effect of the mineral additions traced through two succeeding litters. So far the experiment has been completely successful. The number in the litters at the time of farrowing has been almost doubled and the number at weaning trebled. The young pigs now possess a normal healthy and robust appearance. The experiment has been so successful that instead of the breeding side of the business being abandoned as was originally intended, special housing is now being constructed in order to permit the breeding stock to be doubled.

Fish Meal and Tainted Bacon.—Considerable attention has been given to the problem of tainted bacon and its connexion with fish meal. The problem is not as simple as it may seem, and it is not altogether clear that if the use of fish meal were discontinued taints in bacon would be eliminated. The major problem is one which can be tackled only at a central experimental farm. It is, however, quite clear that a great deal of the trouble has been associated with the use of fish meal, and if, therefore, a substitute can be found which will give as good fattening results as fish meal without tainting the bacon, considerable progress will have been made towards a satisfactory solution of a problem which vitally affects the bacon trade of Northern Ireland. With this object in view, an experiment to test the value of soya bean meal with and without the addition of minerals has been carried out. Each of the lots contained twenty fattening

pigs, and the experimental period extended for fourteen weeks. The results have been most encouraging. In general it may be said that there are strong indications that better and cheaper results may be obtained by the substitution of other substances for fish meal.

The Feeding of Minerals to Cattle.—Experiments are also in progress on the feeding of minerals to calves and to dairy cows. In this work an endeavour is being made to collaborate as closely as possible with the Rowett Institute for Research in Animal Nutrition.

Nutrition Experiments with Poultry.—Nutritional work with poultry has been commenced with two objects in view :—

(1) To ascertain whether it is practicable to stimulate considerably development and maturity in young growing chicks by the addition of certain minerals and accessory food bodies to a normal ration.

(2) To ascertain the nutritional requirements of heavy laying pullets.

Considerable progress has already been made with both these investigations. Results of economic importance are being obtained concerning the relative value of the various types of protein (albuminoids) and the effect of a proper mineral balance in the ration of laying pullets. In view of the important place taken by poultry in the export trade, and the fact that the nutrition of poultry is as yet practically an unexplored field, it is most desirable that the limited facilities at present available for experimental work should be increased as soon as possible. The work on poultry is being carried out at Stormont under the supervision and with the co-operation of the staff of the poultry division; it is also being linked up with similar work which is being carried out in Scotland under the auspices of the Rowett Research Institute for Animal Nutrition. Further particulars will be found in the section dealing with the poultry division, page 35.

Milk Testing.—The past year has witnessed a considerable expansion of the milk testing work. During the year ended September 30th, 1925, 76,938 samples have been dealt with; the corresponding number last year was 44,543.

It is gratifying to be able to record that the central scheme of milk testing has worked very satisfactorily. Great credit is due to the supervisors of milk-recording associations for the efficient manner in which they have co-operated with the staff of the milk-testing laboratory.

It is becoming more and more manifest that the central milk-testing scheme is performing, in addition to its main function, valuable educational work. Arising out of the reports sent at intervals of from four to six weeks to each member of the associations, numerous enquiries for explanation, information and advice on the feeding of dairy stock have been received, together

with a number of requests for evening lectures to milk recording associations. Although it has not been possible owing to the pressure of the work to accede to all the requests for evening lectures, twelve lectures dealing mainly with the feeding of dairy cows have been given to various associations and to branches of the Ulster Farmers Union.

General.—The head of the division represented the Ministry on the advisory committee set up under the chairmanship of Lord Clinton by the Imperial Minister of Agriculture and charged with the task of drawing up schedules for the proposed new “Fertilisers and Feeding Stuffs Act.” The advisory committee has completed its report, which has been submitted to the Minister and published. (Report of the Fertilisers and Feeding Stuffs Advisory Committee, Stationery Office, 1925).

Under an agreement come to between the Ministry and Queen’s University, the staff of the division is responsible for the teaching work in agricultural chemistry in connection with the faculty of agriculture at the University. The demands made on the time of the staff for such duties will increase considerably during the next two years, and will undoubtedly limit activities in other directions.

The following technical papers have been published or read to scientific societies by the staff of the division :—

(1) “Report on Baby Beef Experiments.” (G. S. Robertson and F. Dickinson). (Ministry of Agriculture, Northern Ireland, Technical Bulletin No. 1).

(2) “Effect of Minerals in Overcoming Breeding Difficulties in Certain Sows.” Read to the Agricultural Education Association at Reading by R. G. Baskett.

(3) “The Effect of Minerals on the Growth of Chickens and the Egg Yield of Pullets.” By G. S. Robertson and R. G. Baskett. Read to the Agricultural Section of the British Association for the Advancement of Science at Southampton.

Finally it must be recorded that the work of the division owes much to the help so freely given by the county agricultural instructors in the carrying out of the field trials, and to those farmers who have provided facilities for certain sections of the work in animal nutrition.

Seed Testing and Plant Disease Division.

Expansion of the activities of both principal sections of the division was recorded during the year. A satisfactory feature of the work was the larger call made by farmers for advice, though far greater use of seed testing facilities should still be made by them.

Seed Testing.—The samples tested in the official seed testing station during the period August 1st, 1924, to July 31st, 1925, showed an increase of 30 per cent. over the number for the pre-

vious season. A total of 2703 samples passed through the station. Close attention to organization enabled the staff to handle these with less delay in the rush periods than in previous seasons. Samples submitted by farmers totalled only 153. From wholesale and retail seedsmen 2195 were received, and 355 were tested for various officers of public departments, including 138 official samples drawn by the Ministry's inspectors. As in previous seasons the majority of farmers' samples were received from counties Antrim, Down, and Londonderry. None were submitted from county Fermanagh.

Ryegrass constituted 67·5 per cent. of the samples, clovers 11 per cent., various grasses other than ryegrasses 9·5 per cent., and flaxes 8 per cent. Cereals, roots and vegetables made up the remainder. The "Continental" method of testing grass seeds was employed in all cases unless a specific request for the "Irish" method was made. The latter method was asked for in 712 cases.

The table below shows average and modal results for the various types of seed examined during the season. The "mode" is the most commonly occurring value in a series—for example, in the table, although the average germination for all perennial ryegrass samples was 79 per cent., a germination of 84 per cent. was found more frequently than any other figure. The "modal" germination thus represents more accurately than the average figure the general standard of seed available during the period).

Survey of results given by chief species.

Species.	No. of Samples	Purity.				Germination		Average % Hard Seed
		Average %	Injurious Weeds No. of Samples containing :—		No. of Samples containing Ergot	Mode %	%Average	
			Over 1%	Over 2%				
Ryegrass ...	660	96.2		224	42	84	79	
Italian „ ...	363	97.8		84	19	78	80	
Mixed „ ...	142	94.6		42	5	80	85	
Crstd. Dogstail	25	92.8	2	2	13		78	
Red Clover ...	100	97.8	8		1	88	84	4
White Clover...	22	94.7					87	7
Wild White „...	42	94.1					87	5
Alsike „ ...	36	97.0					87	5
Flax	111	98.7				97	90	

In arriving at the figures for grasses in the table, only those samples tested by the "continental" method were taken into account.

The comparative "average" and "mode" figures for ryegrasses are worth notice. In perennials the mode was somewhat higher than the average. This is normal because some samples poor enough to depress the average figure are always received, but they are so few in number as to leave the mode unaffected. In the case of Italians the average was raised by the inclusion of a few

French samples with germination in the neighbourhood of 96, or 97 per cent., and thus gave a figure above the true general standard. It is unusual for ryegrass mixtures to show a higher average germination than that for perennials or Italians separately, and it will be observed that the *modal* value for mixtures fell between the modes for the two pure ryegrasses. The average purity of the mixtures tested was, as usual, below that of pure perennial or pure Italian.

The quality of Irish ryegrasses as a whole was better than was anticipated in view of the character of the season at harvest, and compared satisfactorily with that of other British crops, though the germination did not quite reach the standard of the previous season. The standard was maintained through the season better than was expected. Experimental bulks stored in unwarmed outhouses and tested by the station at monthly intervals since November, 1924, showed no material drop in germination during the season. Laboratory records of routine perennial samples, grouped in serial lots of 25 samples each, showed a slight rise in average germination (about 1 to 2 per cent.) during the first few weeks of the season, succeeded by a steady and very gradual fall extending over the last half of the season—the total fall for the whole period being, however, only about $2\frac{1}{2}$ per cent.

The proportion of samples containing one ergot grain or more per 4 grams (i.e., 7 or more per ounce) was high, and ergot was observed to be very common on growing grasses also.

The number of samples showing a percentage of "injurious" weeds above that which makes declaration obligatory under the Seeds Act (one per cent. in clovers, two per cent. in grasses) especially in perennials, was markedly higher than in the previous season. It will be seen that one-third of the perennials examined contained over 2 per cent. While this may in part be due to seasonal difficulties, it emphasizes very clearly the imperative necessity for the use of clean land, clean methods and clean seed in producing seed crops; seasons cannot be controlled, but the other factors can and must be if clean produce is to be harvested.

The average purity of perennial ryegrasses will, in future, be somewhat lowered by the inclusion of awned seeds among the "useful species" grade of *impurities*. Hitherto awned seeds have not been removed from the pure seed during the purity test because it is impossible to remove seeds of Italian which happen to have lost their awns, and equally impossible to pursue the complementary policy of removing perennial seeds from Italian samples.

The general standard of Irish crested dogstail was poor.

Clovers (mainly English) were of fair quality, but hardly up to the standard of the previous season's supplies.

The modal and average figures for flax samples indicate the high standard that was maintained by that species.

International Seed Testing Association.—At the invitation of the President of the Association, the head of the division has undertaken the chairmanship of the Committee on Sampling, and is organizing the experimental work of the committee in relation to sampling methods in the laboratory and warehouse. The station participated in the 1925 referee work of the Association, testing some fourteen samples circulated by the President for comparison with the official stations of other temperate countries.

Association of Official Seed Analysts of North America.—The station again took part in the referee work of this association, twelve samples being circulated this season for test by all official United States stations and the majority of European official stations. This referee work is an additional tax upon the staff of the station, but is regarded as important.

One practical outcome of such undertakings is that the official station for Northern Ireland has been placed by the Canadian Seed Import authorities upon their list of recognized stations, enabling consignments bearing its certificate to enter Canada without being delayed at the port of entry pending official tests.

Research.—The lack of time for research work continues to limit development severely, but such time as was available during the summer was devoted to investigations in the laboratory upon seed testing methods; ranges of temperature applicable to grasses on the germinator; relations between temperature and water supply; new methods of disinfecting disease-carrying seeds; weed seed flora of North of Ireland soils; reaction of seeds to coloured light; germination of "hard seeds" in soil; and similar matters.

Experiments designed to determine the behaviour of ryegrass parcels, and causes for fall in quality during shipment to America have been undertaken in collaboration with the Department of Agriculture at Washington, U.S.A., and are yielding very useful data. These will be continued.

Field trials were laid down at centres in counties Armagh and Down, with the object of comparing longevity and productivity of New Zealand white clover and English wild white clover.

In collaboration with the official stations for England, Scotland and the Irish Free State, a series of tests was conducted throughout the season on bulk samples of Irish ryegrasses stored under conditions comparable with those of a seed warehouse. These tests showed a highly satisfactory uniformity of results as between the four stations, and at the same time gave evidence of the behaviour of the seed which warrants the repetition of the experiment under actual warehouse conditions. A repetition on these lines is now being arranged.

The field trials of various manurial treatments as bearing on the quality, quantity, and storage capacity of Irish ryegrasses were continued, and are again being repeated. Results so

far obtained, though of a preliminary nature, indicate that data useful to the industry may be expected.

A series of farm scale experiments was laid down at a number of centres distributed over the province designed to ascertain the relative merits of perennial and Italian ryegrasses from different countries of origin as crop producing and seed producing strains.

Plant Diseases.—The amount of advisory work increased greatly during the season 1924-25; some 150 cases were investigated, and about 100 of them necessitated written reports. About 25 per cent. of the cases received concerned potatoes; a large number fruit (apples, pears, peaches, cherries, gooseberries, currants and strawberries), the remainder being divided between flax, cereals (oats), root crops (swedes, turnips and carrots), forest trees, glass-house crops and ornamental plants.

With regard to potatoes, the season, except at planting time, which was very wet, was a favourable one. The late or ordinary blight (*Phytophthora infestans*) was far less active than in the last few seasons, but the damage it caused was by no means negligible, and thorough spraying has been amply repaid. Wart disease or black scab must be looked upon as a very dangerous enemy to the grower of non-immune varieties, and although slight attacks of most diseases may be considered as necessary evils, the occurrence of even the mildest attack of wart disease should be reported forthwith to the Ministry. The following diseases were all met with, but only in isolated cases, and except for their enumeration call for no further comments:—Black stalk disease, corky or powdery scab (both in the “canker” and the milder “scab” form), common scab, sclerotium stalk disease, botrytis disease, skin spot, black speck scab, and pink rot. The so-called “virus” diseases such as leaf roll, mosaic and streak were again in evidence, and illustrations of the mischief which these can do were strikingly shown in the experimental work at Stormont. It should be remembered that these diseases are carried by the tuber, and the only way to get rid of them is to obtain seed harvested from a crop known to be healthy and vigorous.

A potato spraying survey was commenced in 1923, when experiments were conducted at 14 centres. In 1924 the scheme was expanded to embrace 35 experimental centres, and the same number have been worked during the present season. The object of this survey is to determine whether 1% burgundy mixture, which contains 4 lb. of copper sulphate and 5 lb. of washing soda to 40 gallons of water, is as effective in controlling the ordinary potato blight as is the 2% burgundy mixture which is at present in general use, and which contains 8 lb. of copper sulphate and 10 lb. of washing soda to 40 gallons of water: it is also being conducted with a view to finding out the least number of sprayings which may be given in order to ensure an efficient

control of the disease. It is hoped that answers to these problems will be obtained from this survey when it has run for a sufficient length of time. Spraying is now almost a universal practice in the North of Ireland, and for each of the seasons 1923 and 1924 the increase in value of the potato crop due to that operation is in the neighbourhood of £1,000,000 sterling.

Diseases of flax were not a prominent feature in this year's work. "Seedling blight" and "browning," the worst enemies of the growing flax plant, were not very prevalent. Two or three serious cases of "dead stalks" came under observation. The two fungi concerned in these cases were species of "botrytis" and "phoma," both of which attack and kill plants in the field, and the resulting browned stems which remain standing are known as "dead stalks." Further work was continued in the laboratory with *Colletotrichum linicolum* P. & L., the fungus causing "seedling blight" of flax.

Research in connexion with the control of fruit diseases expanded during 1925, and in this matter co-operation with the horticultural experts was fully established. With regard to the experiments on apples, the results all point to the importance of fungoid diseases and insect pests in the failure of the apple crop during recent years, and it would appear that if the practice of apple growing is to be successfully pursued, the spraying of the trees is as important a factor as the spraying of potatoes against ordinary potato blight. In two orchards where the trees were sprayed three times in the summer as a preventive measure against "apple scab" and other fungoid diseases of the apple, heavy crops of clean fruit were obtained. On trees in the same orchards which were not sprayed, very little fruit was produced, and that little was so badly attacked with "apple scab" as to render it almost commercially worthless. In these particular experiments the variety primarily concerned is Bramley's Seedling, one which has been, and still is, so popular in Northern Ireland, and which has given such disappointing crops of late. The spraying mixture used consisted of $2\frac{1}{2}$ lb. copper sulphate, 8 lb. best quality unslaked lime, and 40 gallons of water. The first spraying was applied at "pinking," when the flower trusses showed most pink, and before they had expanded (about the middle of May), the second was applied at "petal fall" when most of the petals had fallen from the trees (about the middle of June), and the third three weeks later (about the second week in July). It is hoped to confirm these results next season by further tests. Work on this problem was carried out in the counties of Armagh, Antrim and Tyrone.

Experiments with American gooseberry mildew were conducted in county Armagh for a number of seasons, and full crops of gooseberries free from the disease have been obtained where before the experiments were commenced it was almost impossible to find any sound and healthy fruit. The two most successful spray fluids used here were ammonium polysulphide

(A.P.S.), 1 part in 200 parts of water with soft soap as a spreader and lime sulphur, 1 part in 100 parts of water, to which a spreader of the casein group was added. The bushes were sprayed twice, once at "petal fall" (about the first week in May) and again three weeks later (towards the end of May). The gooseberry sawfly, the larvae of which strip the bushes of their leaves in summer, was successfully dealt with by adding lead arsenate paste to the lime sulphur or the ammonium polysulphide. When this was done a small quantity of lime was also added to prevent the combined spray from scorching the foliage.

Co-operation with the principal forestry station resulted in the carrying out of an extensive experiment dealing with the control of forest seedling diseases, and results of a very promising nature were obtained.

Celery blight, that annoying pest of the market gardener, received consideration, and its incidence and spread were controlled by spraying, but it has not yet been decided which of the spraying mixtures is likely to be the most useful.

Experiments dealing with the changing of the top soil in glass-houses were continued; these were planned with a view to estimating the effect of partial soil sterilization by means of chemicals.

The examination of specimens for obscure fungoid diseases is not often a simple matter, and it is essential that specimens sent in should be packed carefully and as fresh as possible. Sphagnum moss is an excellent packing material. Specimens should be packed in some such material and then enclosed in a substantial box. Leaves sent in envelopes have often been received in a condition little short of hopeless, and it is for the good of both the sender and the investigator that these remarks are made.

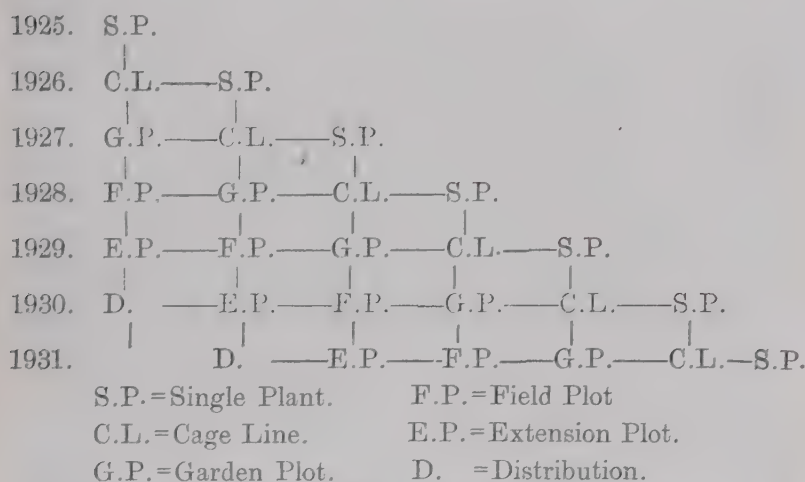
Plant Breeding Division.

Field work in 1925 was entirely devoted to oats and flax. The season was exceptionally favourable, and the experimental grounds were seen at their best by many farmers and other interested visitors.

Oats.—The policy of previous years was maintained in that a large proportion of the ground was allotted to propagation to bulk of pure stocks of such well-tried varieties as Banner, Crown, King, Potato, Sandy and Victory. Pure stocks of Crown, King and Victory are already available each spring to farmers who make application through their county instructors. In the case of these varieties, advantage is being taken of the fact that they can be procured in quantity and in an absolutely pure state from Sweden, and so the work of propagation and subsequent distribution is more easily and quickly effected. No such source of Banner, Potato or Sandy seed is available, and pure stocks of these varieties must be developed at Stormont—from a single

plant in each case—and distribution is thereby delayed. It is hoped, however, that after another season an annual supply of pure line Potato seed will be available for distribution in exactly the same way as Crown, King and Victory seed is distributed at present. Since a single plant is selected each year and its produce is increased to bulk through the successive stages, in successive years, of a cage line, a garden plot, a field plot and an extension plot, it will be apparent that there is constituted here a source of pure seed where supplies are automatically and annually produced. The following diagram illustrates the process of propagation to bulk :—

Year.



The length of time necessary for the production of a pure bulk of seed will be obvious from this diagram. The initial delay is unavoidable, but it is more than offset by the efficacy of the method, and the advantages of a pure stock so produced and maintained.

Breeding work on oats aims at the production of new varieties of outstanding suitability for the requirements and conditions of cultivation which obtain in Northern Ireland. Growers' requirements and conditions of cultivation vary from district to district, but certain qualities, such as high yield and fine straw, are universally sought, and certain cultural and climatic conditions are constant enough to impose limitations on the farmer's choice of a variety. Thus a late-ripening oat is undesirable in any district of Northern Ireland. The production of new and better varieties implies a knowledge of the existing sorts which are commonly grown, and this is sought from variety trials conducted throughout the country. Similar trials on a smaller scale are made at Stormont, and new varieties as they come out are included in these tests. Such new varieties may have been produced elsewhere and imported, or they may result from artificial hybridizations made at Stormont,

The seeds resulting from artificial hybridizations made in 1924 gave rise to a number of exceptionally vigorous hybrid plants, some individuals of which yielded as many as 780, 810, and even 850 grains. These large numbers of second generation seeds will greatly facilitate the work of selection next season by presenting a wider range of new combinations than is usually obtained. In all, some 3,500 hybrid plants will form the material to be sifted next year for possible progenitors of new varieties. The crosses were made in an attempt to secure yield by increased tillering rather than by increased size or weight of the individual seed, since higher yield due to greater grain size unaccompanied by greater tillering capacity necessitates stronger and more fibrous straw. The hybrid plants displayed a degree of tillering fully as great as their high tillering parent, and it is hoped to dissociate this high tillering capacity from the undesirable late ripening, characteristic of this parent, and to combine it with the early ripening habit of the other.

The past season favoured artificial hybridization, and 60% of the crosses made during the summer proved successful. Many of these crosses were of the type known as back-crosses, in which a hybrid plant is crossed by one of its parents. Thus in the case of Potato x Thousand Dollar, where the objective is a variety which will resemble Potato in all respects, but ripen much earlier, while many members of the hybrid progeny ripened as early as the Thousand Dollar parent, none of them quite resembled Potato in other respects. The one which conformed most nearly to the objective was crossed by Potato, and it is hoped that the progeny of this back-cross will contain plants with the desired combination of characters. Work on the selection of early-ripening varieties was rather impeded by the dry summer in 1925, as varietal differences in respect of earliness were almost completely masked by the more influential differences in soil depth. Thus, all varieties on the same type of land tended to ripen together, though, in a normal season, differences of a week or a fortnight might be expected in the dates of ripening of varieties sown together. Varietal differences seemed to operate normally only where there was no lack of moisture, *i.e.*, in shady or deep-soil conditions.

A commencement was made in the season 1924-25 on the work of variety testing by small scale methods. The importance of this type of work cannot be too highly estimated since the results of such tests give a measure of varietal differences, often reveal unsuspected differences, and offer a means of analysing the parts played by various characteristics in the success of a variety. Such tests provide the evidence on which new sorts are preserved and bulked—or rejected if no advantage over an existing standard variety is apparent. They are also used as a means of assessing the comparative merits of older varieties, and advisory and selection work are both guided by the results they yield. The method

depends for its success on frequent replication of small plots of the varieties to be tested. These are grown, in carefully controlled conditions, intermingled in a checker-board arrangement. Checker-board tests have a great advantage over field trials in that the varieties can be brought very close together, and, owing to this fact and the frequent replication of the plots, there is little chance of one variety being more favoured than another by soil differences, the greatest potential source of error in ordinary variety trials.

Four such checker-boards were grown in 1924-25. One was autumn sown and included four winter varieties. The collected data from this test, when repeated over one or two seasons, will make possible a reliable comparison of these varieties on the various bases of winter-hardiness, tillering capacity, yield of grain and straw, size of grain, percentage of husk in grain, and quality of grain and straw as indicated by chemical analysis. Similar information is sought from the other checker-boards, in one of which were compared three selections from Tyrone Tawny of which the best one will be retained and bulked. Another checker-board included three selections of White Cross, a variety produced by crossing Banner with Black Tartary, and in the fourth test two new sorts were tried out against Victory as a standard variety. The laboratory part of these investigations is still in progress.

Flax.—The main feature of the work on flax at Stormont in 1925 was the inauguration of a series of variety trials. In this first test 9 varieties were grown in $\frac{1}{200}$ acre strip plots so arranged that plots of a standard variety, chosen on account of its remarkable uniformity, alternated with those of the other varieties. In calculating the amount of seed to be sown in each plot correction was made for varietal differences in seed size and germinability so that approximately equal numbers of germinable seeds were sown on each plot, and thus a small seeded variety was not penalized by heavier seeding. A marginal discard was made around each plot so that the plants finally harvested had not been subjected to shading by an adjoining taller-strawed variety or to competition with it. The strips were further sub-divided into $\frac{1}{1000}$ acre plots and the produce of each of these was labelled and retted and will be scutched and compared on the basis of yield of scutched fibre. For obvious reasons only pure line varieties were used in the trial.

The stocks of the pure line varieties tested in this way are being increased in bulk at Stormont and Strabane while the testing goes on, and it is hoped that supplies of seed of such varieties as may prove worthy of distribution will be available. A large number of the crosses made in 1925 between these varieties have proved successful, and the progeny of these hybrids may contain forms even more promising than the parent varieties.

Animal Diseases Division.

Laboratories and buildings for experimental animals were completed in March, 1925, enabling the division to function fully on the lines indicated in the Ministry's second annual general report.

General.—During the year under review 371 specimens were received for routine examination and for research purposes, making a total of 564 specimens for the eighteen months the division has been in existence. Reports on the specimens were communicated to the senders, and, in the case of contagious diseases or of diseases of special interest, advisory letters were sent or personal visits made. Many direct inquiries were also dealt with in the absence of specimens, including a few from other countries. The diseases most commonly represented were liver fluke, poultry diseases, coccidiosis in cattle, stomach worms in sheep, hoose, linseed meal poisoning, etc.

The large number of specimens and inquiries received is evidence that the division is meeting an urgent need of the agricultural community. The necessity for reliable diagnosis and advice is being increasingly recognized by farmers. This applies more especially to poultry diseases, the majority of which can be identified only by laboratory examination.

Liver Fluke.—The outstanding disease in the work of the division was liver fluke, which caused heavy losses amongst sheep and cattle in Ireland. The disease often ran a very rapid course, and the symptoms usually associated with the disease were not seen. Death occurred before the flukes had time to grow. The failure to find the flukes owing to their small size often led farmers to believe that the disease was not present, and thus remedial measures were not taken. A wet summer and a mild winter provided ideal conditions for the propagation of the fluke worm and its intermediate host, a water snail. The good prices prevailing induced farmers to stock sheep which were often placed on unsuitable land. Poor feeding was also a contributory factor.

Information regarding curative and preventive measures was widely distributed. An effective remedy, standardized extract of male fern, was recommended and used extensively with success, but its high cost led farmers in many instances to employ inferior extracts, with poor results. The necessity for administering doses appropriate to the weight of the animal was not generally recognized. All available extracts of male fern were collected by the division and tested to a limited extent. One extract was selected for further experiment.

Poultry Diseases.—It will be seen from the following table that all the common diseases of poultry were confirmed in Northern Ireland. About one half of the specimens submitted were those of contagious diseases.

Table showing the results of examination of poultry specimens during the period October, 1924, to September, 1925.

Disease.	Antrim.	Armagh	Down	Fer- managh	Derry	Tyrone	Total
Aspergillosis	3	0	1	0	0	0	4
Bacillary	2	8	16	0	0	0	26
White Diarrhoea }							
Blackhead	0	2	2	0	0	1	5
Coccidiosis	2	0	13	2	2	2	21
Fowl Typhoid	2	0	1	0	1	0	4
Roup	5	9	24	3	3	1	45
Tuberculosis	3	0	5	0	0	1	9
Miscellaneous Diseases }	14	13	84	3	1	3	118
Total	31	32	146*	8	7	8	232

*Includes specimens from the Ministry's laying test.

"Gapes," while prevalent, was represented by only two specimens, it being a well-known disease and easily recognized by farmers.

The common method of treating affected chicks is to insert into the windpipe the tip of a feather dipped in certain oils. A more satisfactory and humane method is to drop into the larynx by means of a fountain pen filler a solution of sodium salicylate. This is easily done through the beak, and the method is recommended to farmers. The necessity for keeping chicks apart from turkeys, which commonly harbour gape worms without apparent ill effect, has not yet been generally recognized amongst poultry keepers.

Roup, as in the previous year, continued to be the most common disease, and only fair success was experienced by owners in combating outbreaks. The disease can be eradicated only by routine individual examination of the birds and, to a lesser extent, by vaccination. The division commenced investigations into a Dutch vaccine regarding which good reports had been received.

Coccidiosis and blackhead, which are distinct diseases, were successfully treated with catechu. The latter disease is a great obstacle to turkey rearing, but can be easily combated by hatching eggs under ordinary hens and by keeping young and old turkeys apart.

Fowl typhoid, a disease not previously reported in Northern Ireland, was confirmed at three centres. Fowl cholera was not encountered; it is a rare disease, and the losses ascribed to it are usually due to fowl typhoid. Research work was commenced during the year to develop a new method of vaccinating against the latter disease.

The division takes a serious view of the occurrence of several outbreaks of bacillary white diarrhoea. The disease is truly congenital as "carrier" birds lay eggs containing the causal

microbe. In a desire to improve their stock farmers have imported pedigree eggs for hatching with, in some instances, disastrous results. The disease, if uncontrolled, increases in severity each year on a farm and, if steps are not taken to exclude "carriers" from the breeding pens, then the poultry industry of Northern Ireland must be seriously affected as has happened in other countries.

Research work was carried out in connexion with the agglutination test for detecting "carriers" of bacillary white diarrhoea. Forty-two survivors in natural outbreaks were tested. Thirty-seven per cent. of the pullets and thirteen per cent. of the cockerels reacted to the test. The reactors have been retained for experimental purposes. An experiment embracing about fifty chicks was carried out in an attempt to discover a preventive agent. The experiment will be continued next year.

The examination of wild birds to detect possible carriers of disease was continued throughout the year, and interesting results were obtained.

Sterility.—The most urgent problem with which the live stock owner is faced to-day is sterility. Odd cases always occur in a herd, the cause of which can often be demonstrated, but there is the more serious condition when up to twenty per cent. or more of the animals prove barren. Very little is known regarding the causation in such cases. The staff of the division has studied carefully the Danish method of treatment, and has examined the genital organs of both normal and sterile animals during life. The study has been facilitated by the examination of organs received from the public abattoir through the courtesy of the City Veterinarian. Sterile animals housed at the laboratories are being used for clinical and bacteriological investigations with special reference to nodular vaginitis in heifers.

The division continues to keep in touch with the leading European laboratories either by personal visits or through their publications, enabling the latest information to be distributed to inquirers.

A paper on "Poultry Diseases and the Veterinarian" was read to the North of Ireland Veterinary Medical Association, and a wireless talk on "The Prevention of Poultry Diseases" was broadcasted from the Belfast station by the head of the division.

An illustrated leaflet on fluke was also prepared by the division.

Poultry Division.

The work of the poultry division is still increasing. Research work was undertaken in co-operation with the chemical and animal nutrition division, and it is hoped to extend this branch of the work still further. The number of pens of pullets accepted for the laying test was the same as in the previous test.

Nutrition Experiments.—The experiments progressed along the lines indicated in the last annual report.

Growth Experiments with Chickens.—Previous work carried out at the division indicated that the addition to a normal ration of certain mineral foods such as phosphate of lime and carbonate of lime had considerable influence in accelerating the growth and development of chickens. The effect appeared to be more pronounced with cockerels than with pullets. Owing to the difficulty with pure breeds of distinguishing cockerels from pullets in the earlier stages it was decided to use sex-linked chickens. Unfortunately, however, two successive lots of sex linked day old chickens brought from England developed bacillary white diarrhoea shortly after arrival. The season was then too far advanced to make a fresh start, and the experiments had to be abandoned for the year.

Mineral and Protein Experiments with Laying Pullets.—The work already carried out with laying pullets had shown amongst other things (1) that the mineral content of the ration for laying pullets was of considerable importance; (2) that different types of protein had considerable influence on the egg yield. It was not clear, however, whether the increased egg yield was due to the protein in foods such as fish meal and dried milk or to the mineral material which these foods contained. It was felt that the elucidation of this point was of considerable economic importance since substitutes for the mineral constituents of expensive foods such as fish meal and dried milk could be supplied at a comparatively small cost.

During the past year an experiment with five lots of laying pullets has been in progress, designed to ascertain (1) to what extent the egg yield would be increased by the addition of cheap mineral substances such as ground limestone and steamed bone flour; and (2) whether less costly foods such as dried blood and soya bean meal could take the place of fish meal, the growing demand for which has made this food an expensive addition to poultry rations.

The experiment, although not yet completed, has already given very interesting results, and has thrown much light on the nutritional requirements of pullets capable of heavy egg production. (Two of the experimental lots in the course of the $10\frac{1}{2}$ months under experiment exceeded an average of 200 eggs per bird). The effect of the ration on the constitution and staying powers of the birds is also being taken into consideration, and with this object in view the experiment will be continued with the same birds for a further period of a year.

During the coming year the experiment will be duplicated with a view to confirming or otherwise the results already obtained.

Laying Tests.—The third of a series of laying tests conducted at Stormont has now concluded. It included 72 pens of pullets

of various breeds and 11 pens of ducks. Particulars of the results of the test will be found at pages 122-126. A detailed report has been prepared, and will be issued in pamphlet form.

The following table gives the number of pens (by counties) competing in the Ministry's tests, each pen consisting of six pullets, but in the case of ducks of five birds only :—

	1922-23	1923-24		1924-25	
	Pens of Pullets	Pens of Pullets	Pens of Ducks	Pens of Pullets	Pens of Ducks
Antrim	3	16	3	17	2
Armagh	9	12	1	18	1
Down	23	34	5	23	6
Fermanagh	1	2	—	2	1
Londonderry	3	2	—	3	—
Tyrone	6	5	1	9	1
Totals	45	71	10	72	11

The following table shows the number of pullets penned, number of eggs laid, cost of food, return for eggs and gross profit over cost of food for each of the last three years :—

48 weeks ended	No. of Pullets penned	No. of eggs laid	Average No. of eggs per bird	Average value of eggs per bird	Cost of food per bird	Average price of eggs per dozen	Gross return per bird over cost of food.
16th Sept. 1923	270	51,025	188·98	s. d. 32 6·9	s. d. 9 10	s. d. 2 0·8	s. d. 22 8·9
15th Sept. 1924	426	77,383	181·6	33 0·5	9 10·25	2 2	23 2·25
16th Sept. 1925	432	78,565	181·86	31 10·7	10 1·6	2 1·2	21 9·1

White Wyandottes again won the cup presented by the Ministry for the pen of birds laying eggs of the highest market value during the test. A silver challenge cup presented by the Scientific Poultry Breeders' Association for the best winter yield was won by the same pen.

The individual championship of the test was won by a White Wyandotte, the property of a station-holder. A silver challenge cup presented by the "Farmers' Gazette" for the pen of birds laying the highest number of eggs in an Irish test (North or South) has been awarded to a White Leghorn pen, this being the first time in thirteen years that White Leghorns have beaten the White Wyandottes in number of eggs in an Irish Test.

There was a decided improvement in the stamina and egg production of the White Leghorns; there were fewer cases of illness, and the percentage of deaths was lower. Moreover, the

average number of eggs per bird for the White Leghorns was higher than that for any other breed in the test.

This improvement in the White Leghorn shows that breeders are paying more attention to the selection of their stock birds. It was also evident that more care had been exercised in the selection of the birds forwarded to the laying test.

Preparations have been made for the fourth test commencing on 16th October, 1925. A copy of the conditions governing this test is to be found at pages 126-128 of the appendices. A laying test for ducks will not be held in the coming year.

6. SPECIAL EXPERIMENTS. *Horticultural.*

(a) *Black Currant Mite*.—Further work in the search for a reliable remedy against this pest was carried out during the year. A large number of possible remedies was tested in a plantation where the mite is well established. While there are indications that it is possible to reduce the attack by the employment of certain specifics, the results so far obtained are not sufficiently uniform to permit of definite recommendations being made. It is hoped to continue the tests next season.

(b) *Capsid Bug*.—The experiment designed with the object of increasing our knowledge regarding the control of this apple pest was continued in the same orchard and on lines somewhat similar to those adopted in 1924. The damage done by the insects was noticeably less on the trees sprayed with certain washes than on those which were not sprayed, but owing to the absence of fruit it was not possible to assess the comparative values of the different washes tested. The experiment will be continued in 1926, and it is hoped to include some further possible remedies. The results up to the present indicate that a nicotine wash if applied sufficiently strong and at the proper times may be depended upon to give reliable results. A revision of leaflet No. 11—Fruit Tree Pests—embodying the main results of the work on this pest was published during the year.

(c) *Ovicidal or Egg-Killing Washes*.—Practical remedies for the destruction of the eggs of insect pests such as apple sucker and apple aphides which remain over winter on the trees have not, until recently, been available. Trials of washes likely to be capable of destroying the eggs of such pests are therefore of considerable importance. In 1924 evidence was obtained indicating that some of these substances, which are chiefly by-products in certain stages of the manufacture of coal-gas, possess definite egg-killing properties. Further brands of these materials have since appeared on the market, and eight in all were tested in 1925. Two of the new brands were found to be useless, and two others distinctly inferior to those giving best results. It is hoped that after a further season's trials with these substances definite information regarding their comparative efficiency may be available.

(d) *Manuring Apple Trees*.—This test has been continued, and there are already indications that useful information may be gained from it. It is yet too soon to draw any conclusion, and the test must continue so that corroborative results may be secured.

(e) *Poultry in Orchards*.—Following the suggestion that the keeping of poultry in grass orchards has important effects on the yield of apples an experiment has been started to obtain information on this point.

7. MARKETING AND TRANSIT OF PRODUCE.

Marketing of Eggs Act (Northern Ireland), 1924.

This Act came into operation on the 1st January, 1925, and reference was made to the main provisions in the Ministry's third annual general report. While it is not yet practicable to draw definite conclusions as to the results achieved, it is already clear that the Ministry's efforts towards the improvement of the egg industry have been fully justified. In approaching the problem the Ministry had of necessity to break new ground, and not without some misgiving in view of the lack of any considerable experience of the administration in the United Kingdom of Acts touching so intimately and so widely the interests of an important industry. In foreign countries and in the colonies analogous legislation had been enacted, but the conditions were so generally different that reports of the official action in those countries were of little assistance. Nevertheless the results so far have dispelled any doubts that might have been entertained as to the success of the operation of this Act and, indeed, evidence has already accumulated which points to the desirability of developing still further the principles embodied in the Act. In the main the intention of the new law has been achieved with the minimum of dislocation to the trade, and the terms of the rules made under the Act have been well received and supported by the majority of merchants.

Licences.—At the outset it would, of course, have been impracticable to insist that all traders should be in a position to carry out the terms of the rules in their entirety and, accordingly, as provided in the Act, the Ministry granted a licence to any person who subscribed to an undertaking to comply with such regulations as the Ministry might issue from time to time. In all, 1,718 licences were issued. To a certain extent therefore the licence was provisional, but it is gratifying to record that so far in only four instances was it found necessary to revoke licences. The Ministry's practice was to refrain from withdrawing a licence unless the trader failed, either deliberately or heedlessly, in the matter of compliance with the prescribed conditions. While many licensees were slow to appreciate the necessity for strict compliance with the terms of the rules, the general standard of observance is now fairly satisfactory. As regards the revoked licences the Ministry

had to take into consideration the serious effect of putting a trader out of business, and it was only as a last resort that this course was taken.

There was reason to believe that a number of unlicensed persons were still engaged in the egg trade. These were, of course, mostly people in a small way, but they were also of the type which does real harm to the trade by holding up supplies on a rising market, and has few scruples in handling stale or dirty eggs. These cases are receiving attention.

Premises.—An inspection of the premises of all wholesale dealers before the date of the coming into operation of the Act was not possible, and the Ministry concentrated on ensuring that the more important merchants who were also exporters were in a position to conduct their trade in a suitable manner. In most cases existing premises were, with few alterations, quite suitable for the grading, packing and testing of eggs, and in the remaining cases the Ministry found no difficulty in persuading the merchants concerned to arrange for improved accommodation.

Cases.—In the early stages considerable quantities of unsuitable cases were in stock, and the less reliable members of the trade were disposed to continue to use them. Pressure from the Ministry was, however, successful in bringing about a discontinuance of this practice. Reports were received that consignments of cases which had been used before had been returned from Great Britain to several merchants, and particular attention has been given to this matter. The use of second-hand cases was a factor which weighed with the Ministry in considering the withdrawal of the licence from one firm.

Some difficulty was experienced in connexion with the use of home-grown timber. Sufficient attention to the prescribed specifications, particularly in regard to quality and thickness of the timber and to the condition that such timber must be properly seasoned, was not always given by case-makers. Representations made by the Ministry to these makers resulted in the production of an improved article.

Dirty Eggs.—Apart from freshness no other factor more actively hindered the development of the Ulster egg trade than the marketing of an unduly high proportion of soiled, stained and dirty eggs. Despite a vigorous educative campaign many producers in Northern Ireland did not see the wisdom of following closely the Ministry's advice to keep clean nests and to wipe with a damp cloth any eggs found to be in a soiled condition at the time of collection. In some districts itinerant collectors, in order to further the sale of particular commodities, in exchange for which they accepted the eggs, and to meet the competition from other collectors, were prepared to accept eggs in practically any condition. Refusal by a merchant to handle such eggs resulted much too often in their disposal to less scrupulous traders. On the whole, however, notwithstanding the difficulties encountered, there is

ample evidence of substantial improvement in the cleanliness of eggs on sale in Ulster.

Testing.—The intrinsic quality of the eggs is, of course, even more important than attractiveness of appearance. For this reason the Ministry attaches the greatest importance to the rules in regard to testing, which prescribe that all eggs intended for sale by wholesale must be tested by an approved artificial light test during the period 1st May to 31st December, and that the following characteristics must be present in eggs included in consignments :—

Hen Eggs :

Yolk—Translucent or faintly visible to visible, but not clearly visible and keeping near centre.

White—Translucent and firm.

Depth of air space not exceeding $\frac{1}{4}$ inch.

Duck Eggs :

Yolk—Visible to clearly visible.

Shell—Clear.

This is the period in which, because of advancing prices, there is a disposition to hold over eggs and, as supplies pass through so many hands, it is increasingly difficult to ensure that they are really fresh when they reach the consumer. While much remains to be done to achieve the desired standard of freshness there is no doubt but that a marked advance has been made. Ulster eggs commanded prices in excess of those paid for best Continental supplies, and markets closed to them for years readily accepted considerable quantities. The experience of progressive merchants was that they were frequently unable to fill all the orders placed with them by cross-channel merchants.

Article IX. of the rules, which provided, as an alternative to testing, for the disposal of supplies by itinerant collectors to other wholesale dealers on a quality basis, was not quite successful in practical application.

Grading.—It was not to be expected that at the outset the requirements of the rules in regard to grading would be strictly complied with by all wholesale dealers. Experience showed, however, that, although in some cases grading was somewhat uneven, consignments presented a fair appearance of uniformity. Merchants in Great Britain were not slow to insist on satisfactory grading to weight as prescribed by the rules, and the fact that, in certain cases, they refused to pay the full price quoted for underweight consignments resulted in more attention being paid to this matter.

During the season of maximum production the disposal of eggs too small for inclusion in the lowest prescribed grade was the subject of considerable public attention. When pullets commence to lay, the eggs are usually small and do not come up to the stan-

dard required for the lowest grade. The Ministry recognized that for a short period very considerable numbers of such eggs must come on the market, and raised no objection to their sale provided that they were not included in any of the prescribed grades. Special authorizations permitting the disposal of small eggs were granted by the Ministry to ensure that, except in the matter of grading, small eggs would be dealt with in conformity with the rules. During the period from 1st January to 30th September authorizations were issued to 44 firms for the disposal of over 3,000 hhds. small eggs.

Instruction in Testing, Grading and Packing.—Facilities were afforded to all the members of the wholesale trade to acquire experience in the proper methods of testing, grading and packing, and much of the improvement which has been noted in these matters must be attributed to courses of instruction organized by the Ministry at convenient centres.

Itinerant Collection of Eggs.—The manner in which eggs had formerly been collected from producers constituted one of the weaknesses of the trade, and the Ministry adopted a firm attitude in the administration of the rules on this point. Only cases of the "filler" or "section" type were permitted, and it was prescribed that eggs must at all times be carefully protected from adverse weather conditions. Many traders showed a reluctance to comply with these conditions, and in support of their attitude held that collection in "filler" cases led to an unduly high proportion of breakages. It was clear, however, that by adopting suitable types of cases breakages could be avoided.

Cold-Stored, Pickled or Preserved Eggs.—The information supplied to the Ministry shows that the trade in cold-stored, pickled and preserved eggs is very extensive. The approximate quantities deposited in registered premises in Northern Ireland were as follows :—

Cold-stored	177,000 hhds.
Pickled	57,000 ,,
Preserved	2,000 ,,

The Ministry was careful to avoid interference with the legitimate trade in these classes of eggs, but it was necessary to supervise the movement of consignments to prevent the continuance of fraudulent practices. Premises on which eggs are cold-stored, pickled or preserved must be registered with the Ministry as prescribed by section 2 of the Act. There were 19 such premises. Records must be kept in these premises showing full particulars as to the delivery, despatch and ownership of eggs handled in the premises and, on demand from the Ministry, returns containing similar information must be furnished. The Ministry is glad to record that in this matter the fullest co-operation was shown by owners of registered premises. Details of the requirements of the Act in regard to cold-stored, pickled and preserved eggs were

issued to all persons known to be interested in the sale of such eggs. Under the Act cold-stored, pickled or preserved eggs when exposed for sale by retail must be conspicuously labelled as such. Although this matter was prominently brought before members of the retail trade, it was found necessary to take proceedings in two instances in Belfast. As, however, the cases were the first of their kind the Ministry did not press for a penalty, the object of the prosecution being to draw public attention to the necessity for compliance with the conditions as to labelling. The defendants were acquitted under the Probation of Offenders Act on payment of 20s, costs of the prosecution, the presiding magistrate, on behalf of the Bench, indicating that any such further cases which came before them would be more severely dealt with.

“W.A.F.” Markings.—Unless eggs are tested prior to despatch from registered premises they must be marked “W.A.F.” (with all faults). Representations were made to the Ministry that because of the “W.A.G.” marking, consignments exported to Great Britain from registered premises in Northern Ireland were placed at a disadvantage compared with consignments dealt with by cold-storage firms in Great Britain. However, the Ministry could not see its way, in the interests of the Northern Ireland egg trade as a whole, to modify the rule which was intended to ensure that cold-stored eggs would be tested on withdrawal or a clear indication to the contrary would be given to the purchaser.

Packing of Eggs at Markets.—The Act provides that market authorities by which tolls are levied in respect of eggs shall provide and maintain such covered sheds or other accommodation for the packing of eggs brought for sale at the market as the Ministry considers suitable. With a view to having arrangements made for the observance of this condition a meeting of representatives of those authorities, ten in all, was convened by the Ministry. The improvements made in market premises by these authorities to meet the requirements of the Act demonstrated their keen appreciation of the importance of fostering the industry. In addition to the toll markets there were some 50 other egg markets in Northern Ireland, and, although the requirements of the Act as to the provision of accommodation did not apply to them specifically, the owners as a general rule were ready to effect improvements where approached by the Ministry.

The fact that retailers attending markets in Northern Ireland were not required by the rules to conduct their business under cover gave rise to some complaints from wholesale dealers. The question became acute in one important market, but fortunately it was possible to bring about a solution of the problem, retailers and wholesalers entering into an agreement not to conduct any dealings with producers except in the building provided by the market authority.

The non-compliance on the part of retailers in the matter of dirty eggs was also the subject of representations to the Ministry. Steps were taken to acquaint representative bodies of the retail trade that in this important matter the Ministry would be glad to be afforded their co-operation. If, however, individual retail merchants did not see their way to insist on purchasing only clean eggs, the Ministry would be forced to consider the question of making the terms of the rules in regard to dirty eggs applicable to them.

Public Health Acts Amendment Act, 1890.—Prior to 1924 many of the urban and rural sanitary authorities in Northern Ireland had voluntarily adopted Part III. of the Public Health Acts Amendment Act, 1890, but other authorities for various reasons declined to fall into line. However, by section 5 of the Marketing of Eggs Act (Northern Ireland), 1924, section 28 of the Public Health Acts Amendment Act, 1890, was brought into force, in relation to eggs, in every urban and rural district in Northern Ireland in like manner as if it had been adopted by the council in each such district. Under the statute the councils are empowered to take action against persons for the disposal of eggs unfit for human consumption. In all, legal proceedings were instituted in 7 instances, the fines imposed varying from 10s and costs to £3 and costs. It must be admitted that, with a few outstanding exceptions, councils do not as yet appear to take a very serious view of their responsibilities in this matter.

Marketing Assistance.—The Ministry continued to afford exporters all possible assistance in obtaining markets for their produce, and was successful in introducing many merchants to reliable cross-channel buyers. The improvements in quality and appearance resulting from the administration of the Act and rules led to an increased demand for Northern Ireland eggs, despite the fact that Continental competitors had reviewed their export regulations to meet the situation so created.

Following on representations made by merchants in Great Britain as to the sale of foreign eggs under descriptions which were calculated to lead the purchasers to believe that the eggs were Irish, a representative of the Ministry visited the premises of several retailers of eggs in Liverpool, where there was reason to believe that this practice was being carried on. The result of the investigations showed that the practice was fairly general amongst less reputable traders, and a case was taken up on behalf of the Ministry by the authority charged with the administration of the Sale of Food Order, 1921, in the Liverpool County Borough. The Order provides "that a person shall not sell or offer for sale or expose for sale whether by wholesale or retail as fresh eggs or new laid eggs or under any descriptions of which the words 'fresh' or 'new laid' form a part, any eggs which have been imported into the United Kingdom unless the descriptions also include the word 'imported' or a word or words disclos-

ing the country of origin." Proceedings were successful, a fine of £10 and costs being inflicted for the sale of Chinese duck eggs as Irish. A further case was taken under the same Order by the local authority on the technical charge of exposing eggs for sale without a label bearing the word "imported." As, however, the complainant had been informed verbally when negotiating the purchase that the eggs were imported, no penalty was imposed, but the defendant was ordered to pay costs.

Royal Ulster Agricultural Society's Show, 1925.—The competition at this show, on the lines of previous years, provided a means of demonstrating to the public the improvement in the egg trade resulting from the operation of the new Act. Twenty-eight merchants forwarded cases for competition as compared with seventeen in 1924. The conditions provided that each competitor should send 3 cases of eggs to an agent in Manchester nominated by the Ministry, the cases to be re-despatched without re-opening to the show grounds for examination—the double journey serving as a test of the methods of packing. The report of the judges showed a very high all-round standard of excellence, 23 entries gaining marks of 90% or over.

Purchase of Eggs by Weight.—The question of the purchase of eggs by weight was seriously considered by the Ministry when the Act was being framed. It was felt, however, that the time was not then ripe for such a radical change of commercial practice. Subsequently many merchants adopted voluntarily this system of purchase, and the actual experience thereby gained largely dissipated the misapprehensions formerly entertained regarding it. The Ministry, accordingly, feels that the time is approaching when a measure making it compulsory for any person who purchases eggs for resale to make those purchases on a weight basis would be well received. There is no doubt but that the system is based on equity, and encourages the production and marketing of large eggs.

Railway Rates and Transit.—The Ministry continued to take all practicable steps to obtain an expeditious transit service between Northern Ireland and Great Britain, and wherever possible sought the co-operation of the carrying companies in the improvement of the trade by affording special facilities or reduced charges. However, the conditions under which the carrying companies were operating prevented the making of any appreciable reduction in the existing scale of charges.

In a few instances where representations were made to the Ministry that consignments of eggs had been damaged in transit, the carrying companies readily lent their assistance in investigating the circumstances in which the damage occurred. There was reason to believe that, as a result of compliance with the rules as to packing, fewer instances of damage in transit occurred.

Following the publication of the Ministry's rules the carrying companies, who were parties to the recommendations in A.B.

Memorandum No 10 as to the Marketing of Eggs, informed the Ministry that as the conditions as to packing, so far as the sectional case (case No. 3) was concerned, differed from the agreed specifications the companies could no longer continue to accept cases of eggs at "company's risk." A conference was held in the Ministry's offices and, after a discussion of all the circumstances of the case, the Ministry felt that it would be impracticable to meet the requirements laid down by the railway companies in regard to packing. As a very small proportion of Northern Ireland eggs was forwarded at "company's risk," and as no similar special concession had been sanctioned for egg traffic in Great Britain, it was agreed to discontinue the arrangement.

8. AGRICULTURAL SCHEMES:

- (a) Poultry-keeping.
- (b) Butter-making.
- (c) Horticulture and Bee-keeping.
- (d) Prizes for Cottages and Small Farms.
- (e) Subsidies to Agricultural Shows.
- (f) Horse-breeding.
- (g) Cattle-breeding.
- (h) Registration of Dairy Cattle.
- (i) Milk Recording Associations.
- (j) Swine-breeding.
- (k) Sheep-breeding.
- (l) Goat-breeding.
- (m) Creameries.

The above-mentioned schemes are published separately, and copies may be obtained, free of charge, on application to the Ministry. It may be stated generally that the schemes provide for the employment of itinerant instructors in agriculture, horticulture, poultry-keeping and butter-making; for the subsidising of premium sires with the object of promoting and improving the general stock of the country; for the giving of assistance to agricultural shows; for the provision of prizes for well-managed farms and neatly-kept cottages; for the encouragement of milk-recording and the practice of mating the best milkers with high-class dairy bulls; and for improving the quality and marketing of dairy produce in connexion with creameries and cheese factories.

A detailed note setting out the main features is given in the opening paragraph relating to the working of each particular scheme for the period under review.

The expenditure entailed by the operations of the schemes is met from two sources, viz. :—

- (1) The Ministry's Vote.
- (2) A rate levied locally for agricultural purposes.

The several schemes are subject to revision annually after consultation with local authorities and the various Advisory Com-

mittees set up to assist and advise the Ministry in all questions pertaining to the agricultural industry.

(a) *Scheme of Instruction in Poultry-Keeping.*

The importance of the poultry industry to Northern Ireland is perhaps not yet as fully realized as it should be. It may come as a surprise to many people to learn that, after the rearing of store cattle, the production of eggs is the most important branch of the agricultural industry. Not only is Ulster self-supporting, but from Northern ports in 1924 eggs to the value of over £1,800,000 were exported to Great Britain, and in the same year Ulster supplied the British market with about 2,600,000 great hundreds, i.e., 120 to the hundred. The number of laying hens in Northern Ireland has recently been estimated at approximately $3\frac{1}{2}$ millions, and the average number of eggs laid per hen at about 110 per year. If the latter figure were raised to 130 per year, and if the poultry population of Northern Ireland were increased by only one hen per arable acre, it would mean that 230 million additional eggs would be available for export, representing an extra income of at least £1,400,000 to Northern poultry breeders.

These facts are not lost sight of by the Ministry, and its varied poultry operations are directed to speeding up matters by encouraging and assisting progressive poultry breeders in every way. In this connexion many natural advantages exist as far as Northern Ireland is concerned. The climate and soil are particularly suitable, the Ulster egg in point of quality excels any supplied to the British market by other countries, and the farming system in Northern Ireland is just of that type which permits the maintenance of large numbers of birds. On the other hand it must be remembered that there is severe competition in the British market from Denmark and other countries, e.g., in 1924 Great Britain imported from Denmark 6,044,743 great hundreds of eggs to the value of £5,495,772.

A scheme of instruction in poultry-keeping was in operation in each of the six counties, seven instructors being employed, of whom four acted in the dual capacity of instructors in poultry-keeping and butter-making. The following extract from the scheme relating to the duties of the instructors serves to illustrate the assistance rendered to poultry-keeping generally by this important scheme :—

Duties. It will be the duty of the instructor to give her whole time towards promoting improvement in poultry-keeping in the county, and in pursuance thereof to deliver lectures on poultry-keeping; to conduct classes; to visit farms and poultry runs, and give such advice and practical instruction as may be considered necessary; to inquire into and report upon outbreaks of disease; to inspect poultry stations established under Scheme No. 11, and report on hatching results in connexion with egg distribution stations; to assist selected applicants to

procure suitable stock birds; to mark with approved leg bands all selected birds, and enter particulars of same in the stock register; to carry out such experiments as may be approved by the Ministry; and to report to the County Committee and the Ministry regarding the progress of her work or other matters, either weekly or otherwise, as may be required.

The following table shows the operations under the scheme during the period under review :—

County .	No. of Instructors	No. of Lectures	No. of Visits	No. of Courses of Instruction given	No. of daily classes in these courses.	No. of pupils on class attend- ance register
Antrim	1*	4	570†	2	28	32
Armagh	1*	5	567†	1	15	18
Down	2*	4	1,183†	5	76	83
Fermanagh	1	—	668	3	45	52
Londonderry	1	6	682	5	68	82
Tyrone	1	—	695	3	45	52
Totals	7	19	4,365	19	277	319

*Also employed under the scheme of instruction in butter-making.

†Inclusive of visits under the scheme of instruction in butter-making.

A poultry-station scheme is also in general operation under which a limited number of premiums are offered to persons, approved by the county committees, who undertake to keep poultry stations. The committees in making selection consider the needs of the various rural districts in the county and the final selection of an applicant to keep a station is conditional on a favourable report being furnished by the instructor in poultry-keeping as a result of a preliminary inspection of the station. There are three classes of poultry stations, viz., hen and duck stations, goose stations and turkey stations, and sittings of eggs of pure-bred hens, ducks and geese (Embsen) may be procured by persons resident in rural districts at prices fixed by the county committees. In the case of hen and duck stations the maximum price charged is 2s 6d per sitting of 12 eggs, and in the case of geese stations 3s per sitting of 3 eggs. The mating of turkey hens with approved pure-bred American Bronze turkey cocks is also arranged at a specified fee, usually 1s per service.

During the past season a new feature was introduced providing for the payment of an additional premium, not exceeding £2 10s 0d, to specially-selected station-holders who would undertake to trap-nest their birds during the winter months. Ten station-holders agreed to comply with this requirement.

The following table indicates the extent to which advantage was taken of the scheme in the several counties ;—

POULTRY STATIONS.

County	No. of egg distribution stations		Sittings of eggs distributed (12 eggs per sitting)	No of egg stations (goose)	Sittings of eggs distributed (3 eggs per sitting)	No. of Turkey Stations	No. of Hens Mated
	Hens only	Hens and Ducks					
Antrim	17	13	3,013	11	177	35	1,333
Armagh	14	6	2,436	12	158	33	1,329
Down	21	17	4,051	18	247	47	1,589
Fermanagh	7	21	2,446	14	190	30	1,081
Londonderry	13	13	2,615	15	221	29	1,053
Tyrone	12	9	2,145	21	288	46	2,012
Totals	84	79	16,706	91	1,281	220	8,397

The following table gives particulars of the number of sittings of eggs (by breeds) distributed from poultry stations in each county. Duck stations are shown separately, but are not recognized for premium purposes unless combined with a hen station :—

*Poultry Stations by Breeds.
Poultry Stations Scheme—1925.
Hen and Duck Stations.*

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Breed	Antrim		Armagh		Down		Fermanagh		Londonderry		Tyrone		Total	
	No. of Stations	No. of Sitings	No. of Stations	No. of Sitings	No. of Stations	No. of Sitings	No. of Stations	No. of Sitings	No. of Stations	No. of Sitings	No. of Stations	No. of Sitings	No. of Stations	No. of Sitings
Wh. Wyandotte	14	1354	10	1173	18	1809	12	901	7	600	13	1266	74	7103
Wh. Leghorn	6	583	6	681	7	805	7	529	6	561	2	169	34	3328
B.P. Rock	2	140	...	...	...	...	1	82	3	195	1	40	7	457
B. Orpington	1	55	...	...	...	...	...	...	...	...	...	...	1	55
Bl. Leghorn	1	54	...	...	...	...	1	59	...	...	...	...	2	113
Br. Leghorn	...	...	...	...	2	135	...	...	...	...	1	73	3	208
Minorca	1	127	2	232	5	352	3	184	4	340	...	...	15	1235
Light Sussex	...	...	1	136	1	134	1	60	...	...	1	215	4	545
R.I. Red	5	469	1	137	5	556	1	98	6	687	3	244	21	2191
Ancona	...	...	...	...	...	...	2	206	...	...	...	...	2	206
Ind. Runner	13	231	6	77	15	176	19	213	12	194	8	124	73	1015
K. Campbell	...	...	...	...	...	...	2	114	...	...	...	...	2	114
Aylesbury	...	...	...	...	2	84	...	...	1	38	1	14	4	136
Totals	...	3013	...	2436	...	4051	...	2446	...	2615	..	2145	...	16706

The amounts paid by county committees as premiums to holders of stations under this scheme for 1925 are as under :—

County	Hen and Duck Stations			Goose Stations			Turkey Stations		
	£	s.	d.	£	s.	d.	£	s.	d.
Antrim	214	5	0	21	13	4	95	19	6
Armagh	141	18	0	22	10	0	80	0	0
Down	257	6	0	35	13	4	113	7	6
Fermanagh	187	17	0	27	6	8	73	10	0
Londonderry	159	12	6	29	7	9	72	5	0
Tyrone	149	2	0	40	16	8	115	12	6
Totals	£1,110	0	6	£177	7	9	£550	14	6
Totals for 1924	£1,074	7	6	£166	12	2	£519	6	8

Particulars of the egg-laying competitions (pullets and ducks) held by the Ministry during the period under review will be found at pages 35-37 of this report.

Poultry Demonstration Farms. The poultry farms mentioned below were continued as poultry demonstration farms during the past year. These farms were selected early in 1924 by the Ministry in order to demonstrate the commercial possibilities of poultry-keeping when managed on up-to-date lines, and the owners in return for an annual subsidy from the Ministry undertake to provide data showing their annual expenditure and receipts as well as their capital outlay. From the information so obtained the Ministry hopes to be in a position at a later date to publish particulars which will be of assistance to others who wish to specialize in this industry. The selected farms are open to inspection by organized parties of visitors during the year on due notice being given to the owner of the farm. Training is also afforded at the farms to selected students from the Ulster Dairy School, Cookstown. Particulars of the selected poultry farms are as follows :—

- (1) Owner—Lieut.-Col. F. S. N. Macrory, D.S.O., Ardmore Poultry Farm, Limavady, County Londonderry. This is a large poultry farm where close on 2,000 laying hens of the White Leghorn breed are kept, and a like number of young birds are hatched out to renew stock for the next season.

Visiting days—Thursday or Saturday from 2 p.m.

- (2) Owner—Mr. George Downey, Helen's Bay, County Down. This is a small poultry farm, and demonstrates how a restricted area of a few acres can be devoted entirely to the keeping of poultry with profitable results.

Visiting days—Wednesday or Saturday from 1 p.m.

- (3) Owner—Miss D. Robertson, Dogleap, Limavady, County Londonderry. This is an example of a mixed farm where

poultry are kept as an adjunct to the ordinary tillage operations. On this farm the birds are partly confined and partly on open range. The number of birds kept is limited to a few hundred.

Visiting days—Thursday or Saturday from 11 a.m.

During the period under review a pupil has been in training at both Lieut.-Col. Macrory's and Miss Robertson's farms.

(b) *Scheme of Instruction in Butter-Making.*

In any agricultural community where the raising of dairy stock is extensively carried on, the manufacture of butter—both for home and export purposes—is of paramount importance. It is estimated that over 60% of the total production of milk in Northern Ireland to-day is utilized in the manufacture of butter, the bulk of which is made on farms.

Under the provision of the scheme of instruction in butter-making and home cheese-making, which was in force in the counties of Antrim, Armagh, Down and Londonderry, the 5 instructors were occupied mainly in visiting home dairies and in giving advice, particularly as to the proper ripening of milk and cream; in giving demonstrations in the making of butter and cheese; in conducting tutorial classes in butter-making at suitable centres, and advising residents in the county on all matters pertaining to dairying or home cheese-making.

The following table summarizes the work performed by the instructors during the year under review :—

County	No. of Instructors	No. of Lectures	No. of visits to private dairies	No. of courses of instruction given	No. of daily classes in these courses	No of pupils on attendance register
Antrim	1*	...	†	2	28	24
Armagh	1*	...	†	3	37	36
Down	2*	...	†	4	59	44
Londonderry	1	...	484	10	159	113
Totals	5	...	...	19	283	217

*Also employed under the scheme of instruction in poultry-keeping.

†Included in number of visits paid in connection with scheme of instruction in poultry-keeping.

A detailed account of the Ministry's work regarding butter manufactured at creameries will be found at pages 69-71 of this report.

(c) *Scheme of Instruction in Horticulture and Bee-Keeping.*

This scheme, which is in general operation, provides for the appointment of at least one instructor in horticulture and bee-keeping in each county in Northern Ireland.

The following extract from the scheme relating to the duties of instructors illustrates the extent of the work covered by the operations of this particular scheme :—

Duties. It will be the duty of an instructor to give his whole time to the work and to do all in his power to further the interests of horticulture and bee-keeping in the county; to give demonstrations, and, if approved, to deliver lectures on horticultural subjects such as soils, manures, vegetable, fruit and flower cultivation, plant diseases, and insect pests—to visit gardens and orchards, and give practical demonstrations on spraying, planting, pruning and grafting of fruit trees—to give instruction in and demonstrations on the grading, packing and marketing of fruit—to conduct such experiments and other demonstrations as may be approved by the County Committee and the Ministry—to select suitable centres, sites, etc., for this purpose and to supervise the work connected therewith—to visit apiaries and give instruction in the principles and practice of modern bee-keeping—to deal with diseases of bees, plants and trees—to advise farmers, cottagers and others interested as to the planting of trees, etc., for shelter and other purposes—to reply to inquiries from those seeking his advice on horticultural and bee-keeping subjects—to give practical demonstrations to students attending winter agricultural classes, and to report to the County Committee and the Ministry on the progress of his work or other matters, either weekly or otherwise, as may be required.

The instructor may also be required to act as judge in connection with the scheme of prizes for cottages and small farms in a county other than that in which he acts as instructor or of which he is a native.

Special Duties. The instructor will be required to carry out such duties as may be assigned to him in connection with any Orders issued by the Ministry under the Destructive Insects and Pests Acts, 1877 and 1907, or any other Acts affecting agriculture and horticulture. He shall also report to the County Committee and the Ministry on all cases of disease in bees which may come under his notice, and shall act as Inspector of the County Committee for the purposes of the Bee Pest Prevention (Ireland) Regulations, 1909.

Particulars of the working of the scheme in each county are appended :—

County	No of Instructors employed	No. of visits & demonstrations	No. of lectures delivered	Total attendance at lectures	No. of demon- stration plots	No. of Vegetable plots
Antrim	2	1,724	10	228	41	30
Armagh	2	1,498	15	114	11	54
Down	2	1,623	17	234	14	35
Fermanagh	1	753	—	—	—	—
Londonderry	1	759	—	—	12	4
Tyrone	1	863	24	360	57	22
Totals	9	7,220	66	936	135	145

In January a special course of instruction in horticulture was given at a class held in county Armagh—this being pre-eminently a fruit-growing county—by one of the instructors in horticulture for that county. The class was the first of its kind held under the auspices of the Ministry, and, as it was conducted in private orchards in the Loughgall district, the instruction provided was mainly practical. The attendance and the results were gratifying, and the Ministry hopes to develop the practice of holding classes of this nature in the principal fruit-growing districts.

Another interesting feature with regard to the working of the horticultural scheme during the year was the resuscitation of the Apple Orchard Competitions. These competitions had received a fair measure of support in the six counties for many years before the war, but, for obvious reasons, they were allowed to lapse after 1914. This year the Ministry considered that the time was opportune to recommence these competitions, as it was confidently expected that they would give a much-needed stimulus to progressive fruit-growing. Accordingly the Ulster Horticultural Society—under whose auspices the competitions are conducted—was approached on the matter, and certain financial assistance was promised in the event of the competitions being renewed and, in the circumstances, the Society decided to revive the feature.

An encouraging number of entries was received, and judging was carried out during the month of August. Provision was made for two classes :—

(a) For the best orchard not exceeding one statute acre ;

(b) For the best orchard not less than one acre and not exceeding three acres ;

and in each class a challenge cup was presented to the prize-winner and medals and money prizes to other favourably placed competitors. The Ministry gave permission for one of its inspectors to act as a judge ; in addition, generous support was afforded the society by the county committees of agriculture, each committee making a grant as follows :—

Counties Antrim and Armagh	... £20 each.
„ Down and Londonderry	... £10 each.
County Tyrone	... £10

(d) *Prizes for Cottages and Small Farms.*

As the name of the scheme implies, provision is made for the award of prizes to *bona-fide* cottagers and owners of small farms, the following points being taken into chief consideration by the judges when awards are being made :—

(1) Cottage Section—cleanliness of cottage ; cultivation of garden ; arrangement of manure heap ; general management and care of live stock and management of bees.

(2) Small Farm Section—cleanliness of dwelling and poultry houses ; judicious cropping and utilization of manure ;

condition of grass lands, fences, water-courses, etc.; management and care of live stock; cultivation of garden, keeping of accounts, milk records, etc., and tree planting.

During the period under review the scheme was in operation in the counties of Antrim, Down and Fermanagh, and this year, for the first time, the judges were instructors in horticulture from an adjoining county; previously the work of judging had been entrusted to agricultural instructors only.

The entries and the awards in respect of the three counties in question are summarized in the following table:—

County	Number of Entries					No. of Prizes awarded in each class					Total amount expended in prizes
	Class I. Cottages	Class II. Small farms under £10 valuation	Class III. Small farms between £10 and £25 valuation	Class IV. Ex-servicemen	Class V. Championship	Class I.	Class II.	Class III.	Class IV.	Class V.	
Antrim	90	...	...	24	12	36	...	...	6	4	£ 63 0 0
Down	112	...	...	...	...	48	...	...	...	...	107 10 0
Fermanagh	15	17	12	...	...	7	10	8	...	...	86 0 0

(e) *Subsidies to Agricultural Shows.*

Under the provisions of this scheme a committee of agriculture may, subject to the approval of the Ministry and to the conditions of the scheme, grant subsidies to societies established for the purpose of:—

(a) holding agricultural, poultry, horticultural and farm produce shows; Industrial Shows or Exhibitions; Skilled Labour Competitions, Implement Trials, Ploughing Matches, etc.;

(b) obtaining for their members Analyses of Manures and Feeding Stuffs, Seed Tests, etc.

The following table gives particulars of the subsidies granted in each county during the period under review:—

County	Amount allocated by County Committee	Number and value of subsidies estimated to be paid in respect of:			
		Agricultural and Horticultural Shows		Skilled labour competitions (ploughing matches, &c.)	
		Number.	Value. £	Number.	Value. £ s. d.
Antrim	330	5	300	2	10 0
Armagh	156	2	75	4	30 0
Down	410	8	385	—	—
Fermanagh	70	3	70	—	—
Londonderry	130	4	90	4	25 0
Tyrone	260	6	182	2	11 10
Totals	£1,356	28	£1,102	12	£76 10

Special contributions were also made by the Ministry directly to the funds of the following societies :—

Royal Ulster Agricultural Society	...	...	£450
North West Agricultural Society	...	...	£100
Ulster Goat Society	...	...	£50
Ulster Ram Breeders' Association	...	...	£30
Large White Ulster Pig Society	...	...	£25

(f) *Horse-Breeding Scheme.*

This scheme, the terms of which for 1925 were identical with those of the 1924 scheme, is now in force in each county in Northern Ireland, county Armagh having put it into operation during the current year.

Following previous practice, stallions competing for premiums under the scheme were shown at an exhibition held in February, 1925, in the grounds of the Royal Ulster Agricultural Society at Balmoral. The animals competing at this fixture were those which, as a result of the annual inspections held in the previous October of stallions offered for licence under the Horse Breeding Act, 1918, were regarded as up to premium standard. Two classes were provided at the exhibition, one for Thoroughbreds and the other for Clydesdales, and for the guidance of county committees the stallions in each county were placed in order of merit in their respective classes. From these lists of eligible stallions the several county committees selected animals for the award of premiums, which are payable at the end of the season subject to the regulations of the scheme having been complied with.

In addition to premiums offered by county committees prizes to the total value of £100 were offered by the Royal Ulster Agricultural Society for the seven best stallions of each breed. Fifteen Thoroughbreds and nineteen Clydesdales competed for these prizes and for premiums.

It was decided to award a silver medal to the breeder of the native-bred Clydesdale stallion which secured first prize at the exhibition. This medal has been awarded to Messrs. M. and S. Mark, breeders of "The Tatler," which obtained first prize in the Clydesdale class in February, 1925.

All sires attending the exhibition were regarded as up to premium standard, and, with the exception of two Thoroughbreds, were selected by county committees for the award of premiums. One Thoroughbred which was unable to travel to the exhibition and two Thoroughbreds which were imported from England subsequent to the exhibition were also selected for the provisional award of premiums. The usual arrangements were made, under which the railway companies having termini in Belfast carried the stallions free of charge in one direction, the cost of the carriage in the other direction being defrayed by the Ministry.

A register was published giving particulars of the 35 stallions located in the several counties during the year.

The following table shows the amounts allocated and expended by the several county committees, together with the distribution of premiums in the various counties :—

County	Amount allocated by county committee	Amount expended by county committee	Number of premiums paid by county committee in respect of			Total
			Thoroughbred stallions	Clydesdale stallions	Irish draught stallions	
Antrim	£440	£309	3	4½	—	7½
Armagh	80	70	1	—	—	1
Down	590	578	6½	5	—	11½
Fermanagh	140	140	1	2	—	3
Londonderry	300	204	½	4½	—	5
Tyrone	320	280	2	3	1	6
	£1,870	£1,581	14	19	1	34

The maximum value of a premium fixed under the scheme for Thoroughbred stallions was £70, and for any other breed £45. The values of premiums adopted by each county committee in 1925 are as follows :—

Breeds of Stallions.

County		Thoroughbred	Clydesdale	Irish draught
		£	£	£
Antrim	...	65	35	—
Armagh	...	70	—	—
Down	...	60	40	—
Fermanagh	...	60	40	—
Londonderry	...	60	45	—
Tyrone	...	60	40	40

The Londonderry county committee made a regulation requiring the mare owner to hand to the stallion owner prior to the service of the mare a veterinary surgeon's certificate that the animal was sound. No other special regulations were made by county committees.

In order to earn a premium each Thoroughbred stallion is required to serve 20 mares, and each stallion of any other breed 30 mares (exclusive in each case of the owner's mares) at such fees not exceeding £3 in the case of a Thoroughbred, and £2 in the case of a stallion of any other breed as may be fixed by a county committee.

In the following table particulars are given of the number of mares served by premium stallions under the scheme in 1925 :—

County	Mares served by Thoroughbred stallions	Mares served by Clydesdale stallions	Mares served by Irish draught stallions
Antrim	121	152	—
Armagh	24	—	—
Down	256	171	—
Fermanagh	28	86	—
Londonderry	33	279	—
Tyrone	40	97	32

Subsidies were granted by the Ministry towards the purchase of 4 stallions for service in districts where suitable sires were not available. Loans were also granted to the purchasers of these sires, who were required to undertake to retain the animals for 5 years in the districts where they were located. Three Thoroughbred stallions and one pony stallion were purchased and placed under these arrangements.

Two interesting exhibitions were held in August, 1925, at Cushendall and Carnlough, of the progeny of the pony stallions which were introduced into the Glens district of county Antrim in the 1923 and 1924 seasons. There were two classes at each fixture as follows:—

1. Brood mares with foals at foot.
2. Yearlings.

Prizes to the total value of £44 were offered by the Antrim county committee of agriculture, and were awarded by the judges. The total number of animals competing in class 1 was 52, and in class 2, 56.

(g) *Cattle-Breeding.*

The main object of the scheme is the improvement of cattle breeding by inducing bull owners to keep suitable and sound sires of a high degree of excellence and by encouraging farmers to retain their best young heifers for breeding purposes. The chief feature of the scheme is the provision of premiums for pure-bred bulls of a high standard of excellence. Bulls of the following breeds are eligible to compete for premiums:—Shorthorn, registered dairy shorthorn, registered dairy non-pedigree shorthorn, Aberdeen Angus, Hereford and Galloway—and the animals are selected at approved spring shows by the Ministry's inspectors. Farmers who have been selected by county committees to keep premium bulls attend at the shows to procure suitable animals, and the premium is paid by the county committee, provided that the bull serves 30 to 40 farmers' cows in the season at fees fixed by the committee. At the end of the season the bulls are inspected locally. If the animals have proved fruitful and are passed at these local inspections continuation premiums are awarded generally for three successive seasons, and in special circumstances for a longer period.

The value of a premium varies in accordance with the breed of bull selected. In the year under review the maximum value of a premium payable, subject to the regulations of the scheme, was £20—this premium was paid in the case of a registered dairy shorthorn bull with milk records on both sire and dam's side, and for farmers who are testing and selecting their cows under the Ministry's registration schemes these animals are much sought after. Of late years dairy farmers are beginning to realize that it is only by mating their best young heifers with pedigree bulls with good milk ancestry that dairy farming can be made profitable. If milk records have been kept on only the dam's side,

the premium payable was £17; for a pure-bred Shorthorn, Aberdeen Angus or Hereford bull, £15; for a registered dairy shorthorn bull (other than pure-bred) or a Galloway bull £13 was paid.

It will be noticed that the importance of the store cattle trade has not been overlooked, for provision is made for Aberdeen Angus, Hereford, Galloway and beef shorthorns in the types of bulls eligible to earn premiums.

Two spring shows and sales are recognized as centres for the selection of first year premium animals, viz., the spring sale held annually at Balmoral under the auspices of the Royal Ulster Agricultural Society and the spring sale held annually at Londonderry under the auspices of the North-West of Ireland Agricultural Society—but if they so desire the Ministry does not object to selected applicants procuring bulls at the spring show held annually at Ball's Bridge under the auspices of the Royal Dublin Society, provided of course that the bulls are passed as up to required standard by an inspector of the Ministry. The inspection of bulls with a view to the award of continuation premiums is carried out at local centres fixed by the Ministry, due regard being paid to the convenience of the premium holders.

In 1922, when the Ministry commenced to function, there were 261 premium bulls in the six counties, and, as will be seen from the following tables, there were no fewer than 350 bulls standing in 1925. It is evident, therefore, that the scheme has been carefully fostered by the Ministry; in this connexion it is interesting to note that by a special arrangement with the carrying companies and the Ministry premium bulls are carried to their destination at half rate, and the cost of carriage involved is borne by the Ministry.

The regulations at present in force in each county with regard to services and fees in respect of premium bulls are set out in the following table:—

County	Service Fees	Services		Valuation of holdings of cow owners
		Yearling Bulls	Older Bulls	
		Minimum No.	Minimum No.	
Antrim	2/6 in all cases	30	40	not limited
Armagh	5/- in all cases	30	40	not limited
Down	2/6 where valuation does not exceed £30 5/- where valuation exceeds £30 but does not exceed £100	30	40	not to exceed £100
Fermanagh	2/6 where valuation does not exceed £25 4/- where valuation exceeds £25 but does not exceed £100	30	40	not to exceed £100
Londonderry	4/- in all cases	30	40	not limited
Tyrone	3/6 in all cases	30	40	not limited

The amounts allocated by county committees for premiums to bulls and the estimated expenditure for each county is as below :

County	Money allocated	Estimated expenditure	Total number of bulls standing for premiums in county
Antrim	£1,300	£1,196	77
Armagh	704	620	41
Down	1,550	1,541	99
Fermanagh	550	520	33
Londonderry	540	512	31
Tyrone	1,200	1,071	69
Totals	£5,844	£5,460	350

The following table shows the particulars of bulls selected for and awarded premiums under the scheme in 1925 :—

County	Pure-bred registered dairy		Cross-bred registered dairy	Short-horn	Aberdeen Angus	Galloway	Total
	Dam and sire registered	Dam only registered					
Antrim	8	16	6	36	1	10	77
Armagh	1	5	5	30	—	—	41
Down	5	15	2	66	11	—	99
Fermanagh	3	6	1	14	9	—	33
Londonderry	5	12	1	12	1	—	31
Tyrone	4	11	3	44	7	—	69
Totals	26	65	18	202	29	10	350

The following table shows by counties the distribution of premium bulls in the period under review :—

County	Number of bulls retained for service from 1924	Number of bulls provisionally awarded premiums for the first time in 1925	Total number of bulls approved for premiums in 1925
Antrim	34	43	77
Armagh	14	27	41
Down	68	31	99
Fermanagh	15	18	33
Londonderry	19	12	31
Tyrone	31	38	69
Totals	181	169	350

(h) *The Registration of Dairy Cattle.*

As the title implies this scheme aims at the improvement of pure-bred dairy cattle by inducing cow owners to record the milk yields of their cows with a view to the ultimate entry of their animals in the Ministry's registers of pure-bred dairy cattle. The Ministry has endeavoured at all times to inculcate the fact that the theory of milk recording is essentially practical, and is, from the point of view of the farmer, a matter of £ s d. Experience has proved that the registration of a cow by the Ministry enhances the value of the animal at a show or fair, and, moreover, its progeny is more sought after than the progeny of a non-recorded cow. In the past farmers have displayed a certain amount of apathy towards milk recording, but it is gratifying to note that their views have changed in recent years, and every practical farmer now acknowledges that the system of weighing the milk of every cow in the herd is the only sure means of eliminating the bad milkers and, further, that the best method to adopt for increasing the value of stock is to breed only from proved good milkers—in other words, registered cows—and to use high class dairy bulls. Under the provisions of the scheme—which is directly controlled by the Ministry—owners of pure-bred cows are induced to co-operate with the Ministry in improving their stock on the lines indicated.

The procedure adopted is that inspections are carried out twice each year by the Ministry, and those cows which are of good conformation and well defined type are passed as suitable for provisional selection for registration. Such cows are then tested for quantity and quality of milk, and particulars of those which have attained to the prescribed standards are entered in the Ministry's registers of dairy cattle. Two registers are kept for each breed, and the qualifying standards for registration are set out in the following table :—

TABLE I.

Breed	Ordinary Register			Advanced Register		
	Milk Yield lb.	Butter-Fat lb.	Percentage of Butter-Fat	Milk Yield lb.	Butter-Fat lb.	Percentage of Butter-Fat
Shorthorn, Ayrshire or Red Poll	6,000	210	3	8,000	280	3
British Friesian	8,000	280	3	10,000	350	3
Kerry or Jersey	5,000	175	3	7,000	245	3

In order to ensure that no animal would qualify for registration on a fictitious milk yield the scheme stipulates that a cow will not be eligible for registration unless it has produced a calf (after a

normal period of gestation) within 14 calendar months of the date of calving immediately preceding the milking period for which the milk record has been kept. It was found, however, that the enforcement of this clause was open to criticism in cases where an animal had given an exceptionally high milk yield, but failed to calve within the stipulated period by a narrow margin. Accordingly an amendment was added to the clause providing that a cow which calves between 14 and 16 months from the previous date of calving will be regarded as eligible for registration if it gives a calculated yield of milk and butter-fat not less than the respective amounts shown in the first two columns of Table II. (which represents an increase of 25% on the appropriate standards required for entry in the Ministry's advanced register) and provided that the calculated average percentage of butter-fat does not fall below 3. It should be noted, moreover, that in cases of this nature the milk and butter-fat yields will, for the purpose of entry in the Ministry's register, Show Catalogues, etc., be subject to the deductions shown in the third and fourth columns of the table.

TABLE II.

Breed	Minimum Yield		Deductions to be made from actual yields for purpose of entry in Register		Net adjusted yield for purpose of entry in Register	
	Milk lb.	Butter-fat lb.	Milk lb.	Butter-fat lb.	Milk lb.	Butter-fat lb.
Shorthorn	10,000	350	2,000		8,000	280
Ayrshire	"	"	"	70	"	"
Red Poll	"	"	"	"	"	"
British Friesian	12,500	437.5	2,500	87.5	10,000	350
Kerry	8,750	306.25	1,750	61.25	7,000	245
Jersey	"	"	"	"	"	"

As a result of inspections carried out during the period 150 cows, including 111 pure-bred Shorthorn, 11 cross-bred Shorthorn, 13 Jersey, 11 British Friesian, 1 Ayrshire, 1 Kerry, and 2 Red Poll, were provisionally selected for registration.

Since the Ministry commenced to function until the 30th September, 1925, a total of 2,129 cows, including 250 pure-bred Shorthorn, 28 British Friesian, 8 Ayrshire, 14 Kerry, 16 Jersey, 2 Red Poll, and 1,811 cross-bred shorthorn, had reached the standard prescribed for general appearance and quantity and quality of milk yield, and were duly registered. Of this number 77 pure-bred Shorthorn, 2 British Friesian, 4 Ayrshire, 10 Kerry, 8 Jersey, 2 Red Poll and 794 cross-bred shorthorn cows were entered in the Ministry's register during the period under review.

The milk yields upon which the above-mentioned animals were accepted for registration are given in the following tables :—

TABLE III.—Showing yields of pure-bred cows registered by the Ministry from 1st October, 1924, to 30th September, 1925 :—

Breed	Number of Pure-bred cows registered on a yield of				Total No. of cows registered
	Gallons 500-600	Gallons 600-800	Gallons 800-1000	Gallons 1000 & over	
Shorthorn	—	59	15	3	77
British Friesian	—	—	2	—	2
Ayrshire	—	2	2	—	4
Kerry	7	2	1	—	10
Jersey	1	2	5	—	8
Red Poll	—	1	1	—	2
Totals	8	66	26	3	103

TABLE IV.—Showing yields of cross-bred cows of shorthorn type registered by the Ministry from the 1st October, 1924, to 30th September, 1925 :—

Number of cows registered on a yield of			Total number of cows registered
Gallons 600-800	Gallons 800-1000	Gallons 1000 and over	
511	217	66	794

It will be understood that as a consequence of the clause relating to calving in a stipulated period as a condition for registration, a considerable number of cows which have given the requisite milk yield, etc., are not included in the above tables, as they cannot be regarded as registered cows until their next calves are produced.

The Ministry also introduced during the year a special supplementary register in which are entered particulars of animals which have been accepted for entry in classes A, B, C and D of the British Friesian Society's supplementary register, and which have qualified for registration in respect of milk yield and butter-fat, etc., and passed inspection by the Ministry as regards conformation and type. During the year two calves qualified for entry in this special register.

All owners of registered cows are strongly recommended to continue to keep milk yields of such animals in subsequent years, and their calves are entered in the register as recognised progeny, provided that the particulars of birth are supplied within seven days from the date of calving, and that the sire of the calf is a pure-bred bull of similar breed, and has been passed by the Ministry as up to the required standard for the service of cows under this scheme.

During the year 175 bulls, the progeny of registered Shorthorn cows, were inspected, and 99 were provisionally selected for premiums under the cattle breeding scheme. Of this number 32 are pure-bred animals, the dams and sires of which are entered in the Ministry's register of pure-bred dairy cattle; 49 pure-bred

animals, the dams only being entered, and 18 are cross-bred animals with approved milk records on one or both sides. In addition 10 bulls, the progeny of pure-bred Shorthorn cows, were inspected at owners' residences and passed as suitable for the service of provisionally selected and registered Shorthorn cows. Particulars of these animals were duly entered in the register as registered dairy bulls. In connexion with the work of ascertaining butter-fat percentages in the milk yielded by cows under test with a view to registration approximately 2,170 samples were taken by the Ministry's milk samplers during the period, and these samples were analysed at the Ministry's Chemical Research Station, Queen's University, for butter-fat content.

The Ministry has published a register which contains particulars of pure-bred dairy cattle entered in the Ministry's registers up to the 31st December, 1923, and copies can be procured from any bookseller or direct from H.M. Stationery Office, 15 Donegall Square West, Belfast, price 5s net.

(i) *Milk Recording Associations.*

It is gratifying to be able to report that still further progress has been made during the year in this important branch of the Ministry's activities. There is no doubt that the practice of milk recording is gradually gaining recognition amongst the dairy farmers in Northern Ireland. Nevertheless the advantages of recording are not yet as fully appreciated as they might be, and there is still a certain amount of apathy on the part of some farmers—often those with low yielding cows, i.e., those who would derive the greatest benefit from the information obtained from accurate records. Without reliable records the dairy farmer is to a great extent working in the dark, and he cannot hope to obtain the best results from his herd unless he can tell accurately which of his cows are profitable. The keeping of records is, however, of little value unless the farmer makes judicious use of the information thus obtained, and by careful selection and breeding from dams of known milking qualities builds up a herd of deep milking strain.

The general terms of the milk recording scheme, under which the Ministry gives financial support to recognized milk recording associations, have not been changed, and all the special features which were introduced in 1924 were continued during the year under review. The several county committees have, as heretofore, allocated funds for the purpose of making grants to associations, the amounts being as follows:—county Antrim, £130; county Armagh, £60; county Down, £80; county Fermanagh, £110; county Londonderry, £70 and county Tyrone, £110.

During the year ten new associations were established, viz., two in county Antrim, three in county Down, two in county Fermanagh, and three in county Tyrone. Two associations in county Fermanagh lapsed during the year owing to lack of support on the part of some of the members. The interested members

of these two associations were as far as possible absorbed in other associations in the county.

The following table illustrates the advance which has been made in the establishment of milk recording associations during the past five years :—

County	Number of Milk Recording Associations					Number of Members					Number of Cows under Test				
	1921	1922	1923	1924	1925	1921	1922	1923	1924	1925	1921	1922	1923	1924	1925
Antrim	1	4	4	11	13	43	156	168	394	488	245	1052	1074	2458	2733
Armagh	1	1	1	4	4	14	47	133	167	173	112	192	506	747	680
Down	...	...	3	2	5	...	...	115	68	186	...	...	544	440	971
Fermanagh	1	4	3	6	6	15	117	94	169	198	133	931	698	1119	1044
Londonderry	...	...	1	4	4	...	...	58	168	132	...	...	306	922	824
Tyrone	3	4	5	7	10	127	121	176	198	346	754	934	1210	1417	1861
Totals	6	13	17	34	42	199	441	744	1164	1523	1244	3109	4338	7103	8113

A short course of instruction for newly-appointed supervisors was conducted in Belfast in March, at which 16 supervisors attended. At this course the supervisors received instruction in the general routine work of a milk recording association, and were made conversant with their duties. During the last two days of the course more advanced lectures were given, and 19 of the older supervisors attended on these days.

The Ministry's inspectors in dairying attended numerous meetings of farmers during the year, and delivered lectures on the subject of milk recording and the feeding and breeding of dairy cattle. In addition frequent visits were made to all recognized associations for the purpose of checking the records and of giving advice to the supervisors on all matters connected with their work.

The Ministry is fully alive to the fact that if milk recording associations are to attain their maximum value it is essential that there should be available for the use of the members pure-bred bulls of deep milking strain, and in order to assist associations to obtain such animals the Ministry grants a subsidy equivalent to two-thirds of the cost price of the bull to each association which procures an approved dairy shorthorn bull with high milk records on both sire and dam's side. During the period under review twelve associations took advantage of this arrangement. The prices paid for these bulls varied from 47 guineas to 125 guineas, the average price being about 81½ guineas. Thirty-two associations now own bulls purchased under this arrangement.

Hitherto the inspection of cows which had qualified in respect of milk yield, etc., for entry in the Ministry's register was carried out once only each year, viz., in the early spring. In 1925, however, the Ministry decided to carry out two inspections, and as a result of these inspections a total of 790 cows were entered in the Ministry's register. A further 49 cows were provisionally passed,

and will be registered provided that they calve within the prescribed period. In this connexion it should be noted that the regulations regarding calving between 14 and 16 months as detailed on page 61 of this report also apply in the case of non-pedigree sows tested in milk recording associations.

(j) *Swine-Breeding.*

Just as the cattle breeding scheme aims at promoting improvement in breeding by providing for the payment of premiums to owners keeping suitable and sound sires so, in a similar manner, the swine breeding scheme endeavours to promote the improvement of swine breeding by inducing boar owners to keep sires of a high degree of excellence, and by encouraging farmers to retain their best young sows for breeding purposes. This scheme was in operation in every county, and its main feature is that pedigree boars of the Large White Ulster and Large White York breeds are passed as up to premium standard by the Ministry, and county committees of agriculture are empowered to grant premiums to small farmers, selected by the committees, who purchase these animals for premium purposes and undertake to comply with the conditions of the scheme.

As will be seen from Table I. the premium payable in respect of a first year boar is £8, and a second year boar £6, and to earn the premium the animals are required to serve from 30 to 40 sows at a service fee varying from 2/6 to 5/-. At the end of the first season boars are inspected with a view to determining their suitability for second year premiums. All boars selected for a second year premium must show a high degree of excellence, and animals which show signs of having been badly cared for are not selected; moreover, the owner of the boar selected for a second year premium must produce evidence of the fruitfulness of the boar in the preceding year before a second year premium is awarded.

The following table summarizes the boar premiums awarded by the several county committees in 1925 :—

TABLE I.

County	1st Year Boars		2nd Year Boars		Breeds		Total No. of Boars awarded premiums
	Value of Premiums	No. of Boars	Value of Premiums	No. of Boars	Large White Ulster	Large White York	
Antrim	£8	14	£6	6	20	—	20
Armagh	8	8	6	2	10	—	10
Down	8	5	6	12	16	1	17
Fermanagh	8	4	6	7	9	2	11
Londonderry	8	8	6	7	15	—	15
Tyrone	8	13	6	8	21	—	21
Totals	—	52	—	42	91	3	94

The expenditure on the scheme in each county was as follows :

TABLE II.

County	Money allocated by County Committee for boar premiums	Estimated expenditure by County Committee for boar premiums	Total No. of Premium boars standing during service service
Antrim	£180	£148	20
Armagh	100	76	10
Down	150	112	17
Fermanagh	100	74	11
Londonderry	120	106	15
Tyrone	170	152	21
Totals	£820	£668	94

With a view to popularizing the Large White Ulster breed of pigs in Great Britain, the Large White Ulster Pig Society was successful in inducing the Highland and Agricultural Society of Scotland to provide four classes for pigs of this breed at the society's Glasgow show this year. The Large White Ulster Pig Society contributed £20 towards the prizes and defrayed half the cost of carriage on the exhibits sent from Northern Ireland; in addition, the Ulster Society issued an illustrative booklet setting out the special qualities, etc., of the breed, and copies of this booklet were distributed gratis at the Glasgow show. This was the first occasion on which a special classification for this breed of pig was provided at any show in Great Britain, and it is pleasing to record that the exhibit—in all twelve Ulster breeders entered thirty-nine animals—was the second largest of all breeds in the show, and attracted considerable notice, a large number of the pigs finding ready purchasers at remunerative prices.

(k) *Sheep Breeding.*

(a) *In Mountainous Districts.*

There are large areas of mountain lands in each of the Six Counties devoted solely to the raising of black-faced sheep. While there are some large flock owners, the majority of these sheep are the property of small owners who possess mountain grazing rights in common.

The aim of this scheme is to raise the standard of mountain sheep in Ulster, and the means adopted is the distribution of well bred rams on easy terms to small owners. The rams are selected by the Ministry on behalf of county committees of agriculture and the committees sell the rams at reduced prices to selected applicants in mountain districts. Each applicant is required to sign an undertaking to keep the ram for at least two years in good and healthy condition, and at the end of that period the ram is, as a rule, sold to a breeder in another district—in this way the animal remains in use for three or four years. Efforts are made to have the rams concentrated each year in a particular area, as

it has been found that the best results are obtained by this method instead of the alternative of placing them in widely separated localities.

Owing to special funds having been placed at the Ministry's disposal for the development of the agricultural industry, it was possible to extend considerably the operations of this scheme in 1924. That substantial progress has been made is illustrated by the fact that in 1922 there were only 15 black-face rams located in Northern Ireland under this scheme; in 1923 the number was increased to 38; but in 1924 no fewer than 84 rams were selected and located, a figure that is more than double the number placed in the previous year. It might be added that this is the first year that the scheme was adopted in all the Six Counties. Experience had proved that, as far as Northern Ireland is concerned, owing to the flocks running together few owners were willing to purchase good rams, the result being that the majority of Ulster mountain sheep were inferior in quality compared with Scottish black-face sheep. Accordingly, out of the special funds already mentioned, the Ministry procured during the season 30 black-face rams of high quality in Perth, and these rams are included in the 84 animals placed out in 1924.

The table beneath shows the operations of the scheme in respect of the year 1924-25 :—

1924-25.

County	Allocation from joint fund	Number of rams supplied	Net expenditure (cost of rams, less receipts)	Excess over ordinary allocation borne from special development grant
Antrim	£70	30 (3 died)	£166 0 3	£96 0 3
Armagh	40	1	5 5 0	—
Down	80	21 (1 died)	133 2 8	53 2 8
Fermanagh	12	2	10 5 0	—
Londonderry	60	11	53 16 5	—
Tyrone	60	19	107 10 9	47 10 9
Totals	£322	*84	£476 0 1	£196 13 8

*30 purchased in Perth.

It will be observed from column 5 that in three cases the county committee allocation from the joint fund was not sufficient to meet the additional cost involved in purchasing rams for the county, and the extra expense was defrayed directly by the Ministry from the special grant for agricultural development.

(b) In Lowland Districts.

During the year discussions took place between representatives of the Ulster Ram Breeders' Association and the Ministry, with a view to introducing a scheme for the improvement of sheep in

lowland districts. Schemes of this nature had already been tried in the South of Ireland without success, but despite the failures which had attended attempts in the past, the Ministry decided to give its approval to any proposal that appeared workable. A scheme was submitted by the county Londonderry committee of agriculture and, after consideration by the Ministry's advisory committee on the breeding of sheep the scheme was, with a few slight amendments, put into operation as an experiment in the counties of Antrim and Londonderry. Under the provisions of the scheme rams of Border Leicester, Suffolk, Oxford Downs and Shropshire breeds are eligible for the award of premiums; the value of the premium is £8 each year, and the premium may be awarded for three successive years. Payment of the premium is conditional on the ram serving between 30-40 ewes—the service fee being 2/- per ewe—and in addition a charge of 6d per week or part thereof is made to cover the cost of feeding and caring each ewe. The Ministry recognized the sale held in Belfast under the auspices of the Ulster Ram Breeders' Association as the centre for the selection of rams for premiums under this new scheme, and all rams passed as up to the required standard were marked by special cards as is done in the case of premium bulls at the selected spring shows and sales. As the scheme is of an experimental nature only nine rams have been located this year—three in Antrim and six in Londonderry.

(1) *Goat Breeding.*

In countries where mixed farming is followed goats are a useful addition to live stock, especially in districts where the farms are small and the ground hilly. By nature these animals are adapted to the rigorous conditions of life obtaining in bleak mountainous localities, where they are enabled by their hardy constitution to thrive and yield an abundant supply of milk on very scanty fare. The goat is a suitable animal for the small holder, and in Northern Ireland, which is largely a country of small holdings, goats are a popular and useful class of live stock. The type of animal to be found generally, however, is capable of much improvement, as it is feared that the short-sighted practice of using bad sires whose only qualification is their low service fee is still prevalent.

This fact is fully recognized by the Ministry and the leading goat breeders of the six counties, and for the purpose of improving the breed of goats in Northern Ireland the Ulster Goat Society was formed in 1922. The method adopted by the society for the furtherance of its objects is the encouragement of the formation in rural districts of local societies of those interested in goat-keeping and the provision of pedigree male goats at reduced prices. Owners of goats are also encouraged by the society to keep milk records of their animals with a view to their entry in the Ministry's goat register, to qualify for which a goat must give a calculated milk yield of not less than 900 lb. in a lactation

period not exceeding 45 weeks. The Ministry undertakes to supply the necessary milk record sheets, and to check the recorded yields of the goats at suitable intervals. During the period under review particulars of eight goats which had given the requisite quantity of milk were entered in the register.

In addition to a small grant the Ministry presented to the Ulster Goat society three pedigree male goats which have since been placed out under the provisions of the society's stud goat scheme.

(m) Creameries.

During the period covered by this report the Ministry continued to devote special attention to the question of the development of the butter industry with a view to ensuring that the manufacture of butter by the various creameries in Northern Ireland would be carried out on the most up-to-date and efficient lines. Particulars of the Ministry's scheme for the improvement of the quality and marketing of dairy produce in connexion with creameries and cheese factories will be found at pp. 89-91 of the appendices to the Ministry's report for 1922. Forty central creameries and seventy-five separating stations were, as in the previous year, on the list for visits by the Ministry's inspectors.

During the year 117 visits were paid by the Ministry's inspectors to central creameries and 53 to separating stations, and these visits were availed of by the inspectors to suggest remedies for defects in manufacture, to make recommendations as to new machinery which might be required and to point out generally where improvements might most readily be effected in business methods, especially so far as the question of cost of production was concerned.

Considerable difficulty has been experienced by Northern Ireland creameries in producing butter of a uniform quality from cream supplied from their auxiliaries and experiments, a reference to which appears in the 1923-24 Report, were inaugurated at the Omagh creamery during the year with a view to arriving at a solution of the problem. For the purposes of the experiment a special plant consisting of a special combined water and brine cooler and two cream ripening vats of special design had to be installed. It is anticipated that the results of this experiment, when the final conclusions are arrived at, will be of the utmost utility in enabling creameries to which auxiliaries are attached to produce butter of uniform quality from the cream supplied by these auxiliaries.

Surprise Butter Inspections.—The system of holding these inspections at suitable centres in Northern Ireland and Great Britain was continued under conditions similar to those mentioned in last year's report. These inspections enable the Ministry to exercise an effective check as to the quality of the butter ordinarily produced by the creameries and serve as a guide to

the Ministry as to the creameries entitled to receive marketing assistance.

At the inspections the butter is judged under the heads of flavour, texture and marketable appearance, and in addition a sample of each package of butter is subsequently analysed to ascertain the moisture content. The basis for judging and classifying butter sent to the inspections is as follows :—

		Flavour	Texture	Marketable appearance, packings finish, etc.
Maximum Marks		120	60	20
Minimum Marks	Premium Butter	113	55	19
	Standard Butter	112	54	18

Butter is not classed as “standard” or “premium” if it scores less than the minimum marks prescribed under any of the above headings, or if it is found to contain moisture in excess of the legal limit (16%). In only twelve out of a total of three hundred samples analysed was the percentage of moisture content greater than 16.

Twelve inspections were held during the year, four in Belfast, two in Glasgow, and one each in Newcastle-on-Tyne, Manchester, Cardiff, Omagh, Strabane and Enniskillen, the butter at each centre being judged by two prominent local butter merchants. In connexion with the cross-channel inspections arrangements were made by the Ministry for an exhibition on the day following the inspection, to which prominent local wholesale provision merchants were invited in order that they might have an opportunity of inspecting the samples sent forward. The representatives of the Ministry who were present furnished visitors with the fullest information regarding the butter industry in Northern Ireland, and at each centre the merchants evinced a keen interest in the display, and made many enquiries regarding Northern Ireland creameries.

Marking of Butter Packages.—This scheme, a copy of which will be found at pp. 26-28 of the appendices to the Ministry's report for 1923-24, enables creameries which have consistently sent samples of high quality to the surprise inspections to stamp their boxes with a special Government stamp. In order to qualify for the award of the stamp a creamery must have obtained at least “standard” marks at six inspections in immediate succession. Creameries qualified to use the stamp must regularly submit samples to inspections, and on failing to obtain at least “standard” marks the stamp is withdrawn. The number of creameries entitled to mark their butter boxes with this stamp is steadily increasing, fifteen having reached the qualifying standard at the inspection held in September, 1925. The Ministry is convinced that, as a result of its efforts, a material improvement has taken place generally in the standard of quality of butter exported to Great Britain from Northern Ireland, and that the use of the

special stamp by a creamery is regarded by cross-channel buyers as evidence that the butter produced by that creamery will be consistently of good quality.

Training of Dairymaids.—Under this scheme selected pupils from the Ulster Dairy School are given a course of practical training at approved creameries, and on the termination of the course, which normally covers a period of 20 weeks, the girls are awarded the Ministry's certificate of competency in creamery butter-making, provided, of course, that their work has been satisfactory. The Ministry makes a contribution towards the cost of board and lodging of the pupil during the period of training, and at the conclusion of the course small grants are made to the manager and head dairymaid of the creamery at which the training was given. During the period under review two pupils were offered this opportunity of obtaining a practical knowledge of the work of a creamery dairymaid, and entered on their course of training.

Short Courses for Butter-Makers.—During March, 1925, two courses of instruction, each of two weeks' duration, were conducted by the Ministry for the benefit of butter-makers employed in Northern Ireland creameries at which, in addition to the provision of a valuable series of lectures, demonstrations were carried out by the Ministry's dairying inspectors. The courses were attended in all by twenty-four butter-makers.

Training of Creamery Apprentices.—Pending the completion of the new buildings, which will include a dairy laboratory, in connexion with the recently established agricultural faculty of Queen's University, it was not found practicable to arrange for the training of creamery apprentices who desire to qualify for the position of manager.

9. AGRICULTURAL LAWS.

Live Stock Breeding Act (Northern Ireland), 1922.

This Act has been in operation since 1st January, 1924, and, as will be seen from the tables below, satisfactorily progress has already been made in the elimination of inferior bulls. The Parliament of the Irish Free State has passed a similar Act, which came into force on the 30th September, 1925, and it is also of interest to note the following statement which appears in the September, 1925, issue of the Journal of the English Ministry of Agriculture and Fisheries, London :—

“ A further indication of an awakening interest in live-stock breeding and the use of a good sire may be found in the more frequent representations which are being made to the Ministry with regard to the question of eliminating the scrub bull. The Ministry is fully in sympathy with the object of these representations, and when it has sufficient agricultural support it will be prepared to proceed with the necessary legislation.”

As in the previous year, inspections of bulls for licences were carried out in February and September, and by means of press notices, circulars, posters and handbills, which were widely distributed prior to the inspections, farmers were reminded of the necessity of applying for licences, and were made aware of the procedure to be followed. The system of inspecting bulls for licences at the annual spring sales of the Royal Ulster Agricultural Society at Balmoral, Belfast, the North-West of Ireland Agricultural Society at Londonderry, and a few leading local sales, was continued, and breeders of pure-bred bulls which had reached the prescribed age on 31st March, 1925, were thus given the choice of having their animals inspected at these sales or at the ordinary inspection centres.

Table A below gives particulars of the results of inspections held in spring, 1925, of bulls which were of the prescribed age on 31st March, 1925. Table B relates to similar inspections held in autumn, 1925, of bulls which had reached the prescribed age on 30th September, 1925.

TABLE A.

(Inspections held in spring, 1925, of bulls which reached the prescribed age on 31st March, 1925).

County	Number of applications for licences	Number of licences granted	Number of licences refused	Number of bulls withdrawn, castrated or dead before inspection
Antrim	901	624	248	29
Armagh	263	195	54	14
Down	401	311	68	22
Fermanagh	228	185	31	12
Londonderry	478	334	107	37
Tyrone	835	657	120	58
Totals	3,106	2,306	628	172

The above figures include 394 bulls which were specially inspected at owners' residences subsequent to the ordinary inspections (351 passed and 43 rejected).

TABLE B.

(Inspections held in autumn, 1925, of bulls which reached the prescribed age on 30th September, 1925).

County	Number of applications for licences	Number of licences granted	Number of licences refused	Number of bulls withdrawn, castrated or dead before inspection	Number of bulls yet to be inspected (late applications)
Antrim	392	258	118	13	3
Armagh	128	95	23	10	—
Down	194	153	30	9	2
Fermanagh	64	40	11	3	10
Londonderry	141	92	31	13	5
Tyrone	249	189	37	16	7
Total	1,168	827	250	64	27

The above figures include 27 bulls which were specially inspected at owners' residences subsequent to the ordinary inspections (19 passed and 8 rejected).

Special inspections were made at owners' residences in the case of 717 bulls, viz., 421 young bulls (394 + 27) and 296 older bulls. Of these 717 bulls 634 were licensed and 83 rejected.

The percentages of cases in which licences were refused at the several ordinary inspections since the Act came into operation are as follows :—

September, 1923	5.7%
February, 1924	15.4%
September, 1924	22.5%
February, 1925	23.0%
September, 1925	23.0%

There were thirty appeals against the Ministry's decision to refuse to grant licences under the Act, and, on consideration of the referees' reports, in seven of these cases the Ministry reversed the original decision and granted the licences. In the remaining twenty-three appeal cases the licences were finally refused.

Prior to the inspections held in September, 1925, it was the practice to place ear-marks on licensed bulls only. It has now been decided to mark each rejected bull with the letter "R" on the left ear. A copy of the statutory rules embodying a provision to this effect appears at pages 149-151 of the appendices.

The Ministry felt obliged to institute prosecutions against nineteen persons for keeping unlicensed bulls, and convictions were secured in every instance—a penalty of £10 with costs being inflicted in one case.

The Ministry again records its appreciation of the valuable assistance received from the Royal Ulster Constabulary in the enforcement of the provisions of the Act.

Horse Breeding Act, 1918.

The number of stallions licensed during the year was 122, as compared with 141 in the previous year; 153 in 1923 and 168 in

1922. In the following table a comparison is shown of the results of the inspections of stallions for licences in the past three seasons :—

County	Number of applications for licences for seasons			Number of licences granted			Number of licences refused		
	1923	1924	1925	1923	1924	1925	1923	1924	1925
Antrim	53	41	33	44	33	29	9	8	4
Armagh	9	10	8	6	8	7	3	2	1
Down	43	44	37	42	38	35	1	6	2
Fermanagh	15	9	10	10	9	9	5	—	1
Londonderry	38	38	31	35	34	27	3	4	4
Tyrone	21	22	18	16	19	15	5	3	3
Totals	179	164	137	153	141	122	26	23	15

Of the 15 stallions rejected in 1925, nine were rejected for faulty conformation, three for unsoundness, and in the remaining three cases both these defects were present.

In one case the owner of a stallion appealed against the Ministry's decision to refuse to grant a licence, and the animal was duly inspected by a referee appointed in accordance with the provisions of the Act. Having considered the referee's report on the matter, the Ministry felt bound to confirm the original decision to reject the stallion in question.

The following table shows the number of stallions of each breed licensed in each county for the 1925 season :—

County	Thoroughbred	Clydesdale	Shire	Suffolk Funch	Percheron	Irish draught	Half-bred	Hackney	Pony	Totals
Antrim	2	9	—	—	1	—	6	5	6	29
Armagh	1	3	1	—	—	—	2	—	—	7
Down	13	10	1	2	—	—	6	3	—	35
Fermanagh	1	2	—	—	—	—	2	—	4	9
Londonderry	2	14	—	1	—	—	3	5	2	27
Tyrone	4	6	—	—	—	1	3	1	—	15
Totals	23	44	2	3	1	1	22	14	12	122

Animals Quarantine Station.

In October, 1924, arrangements were made by the Ministry for the importation through the Animals Quarantine Station of a consignment of pure-bred cattle purchased in Scotland by residents in Northern Ireland. The cargo comprised 24 animals, 15 of which were imported direct from farms and 9 from sales held at Perth and Aberdeen. The period of quarantine was 14 days.

Sale of Food and Drugs Acts, 1875-1907.

During the year ended 30th June, 1925, samples of milk, buttermilk, butter, margarine and cheese were taken by local inspectors under the Acts with the following results :—

Description	No of Samples	No. of Prosecutions	No. of Convictions	Penalties Imposed
Milk	2506	171	109	£196 16 6
Buttermilk	676	101	85	119 16 0
Butter	1087	37	28	61 7 6
Margarine	546	—	—	—
Cheese	458	—	—	—
Totals	5273	309	222	£378 0 0

There is a marked increase in these figures over those for the previous twelve months. During the period, 1st July, 1923, to 30th June, 1924, 3,868 samples were taken, 175 prosecutions instituted and 115 convictions obtained, the penalties imposed amounting to £213 0s 0d.

On the 30th June, 1925, the number of premises registered under section 9 of the Margarine Act, 1887, and section 7 (4) of the Sale of Food and Drugs Act, 1899, for wholesale dealings in margarine was 139. In the twelve months ended on that date 3 registrations were effected, viz., one each in the borough of Londonderry, county Antrim, and county Armagh. Three registrations were cancelled, one each in the boroughs of Belfast, Londonderry, and county Antrim.

The present distribution of such premises is as follows :—

County Borough of Belfast	...	...	103
County Borough of Londonderry	...	...	10
County Antrim	...	...	*11
County Armagh	...	...	6
County Down	...	...	6
County Fermanagh	...	...	1
County Londonderry	...	...	1
County Tyrone	...	...	1

*Includes one margarine-cheese factory.

One additional registration was effected as a result of the Ministry's action under section 1 of the Butter and Margarine Act, 1907. which requires the registration of all premises upon which by way of trade butter is blended or reworked, but not so as to cease to be butter. The premises at present so registered in Northern Ireland number 13.

Sixty-two fancy or descriptive names were approved by the Ministry under section 10 of the Butter and Margarine Act, 1907, for use in connexion with margarine. In 24 cases approval was withheld.

Markets and Fairs (Weighing of Cattle) Acts, 1887 and 1891.

It was not found practicable owing to the pressure of other work to carry out during the year under review any inspections under the provisions of the above-mentioned Acts.

In view, however, of the satisfactory position disclosed by the previous year's investigations it can be assumed that little necessity existed for similar action this year.

The Destructive Insects and Pests (Northern Ireland)

Order of 1922.

The Ministry has again to acknowledge the valuable assistance received in the working of this Order from the Customs Authorities, who reported the arrival at Northern Ireland ports of any consignments of plants which were unaccompanied by the necessary health certificates. In no instance was a consignment so notified found on inspection to be affected by any of the insects or pests scheduled by the Order.

The number of certificates received during the year in respect of consignments of plants from foreign countries was 329. These consignments were chiefly composed of bulbs from Holland and Belgium.

It was found that consignments of plants from certain European countries were accompanied by health certificates which did not contain the complete information required by the provisions of the Order. The Ministry caused representations to be addressed to the Governments of the countries in question and, as a result, the position is now satisfactory.

The Sale of Diseased Plants (Northern Ireland) Order of 1922.

The visits of the Ministry's Inspectors to local auctions were continued during the year for the purpose of examining all plants, etc., exposed for sale. 14 such visits were paid, but in no case was it found necessary to prevent the sale of any plants on account of their being attacked by any of the insects or pests scheduled by the Order. In one instance, however, 156 black currant bushes offered for sale were found to be attacked by black currant mite. A notice ordering the destruction of the bushes, in pursuance of the provisions of the American Gooseberry Mildew and Black Currant Mite (Ireland) Order, 1912, was immediately complied with.

Regulations Affecting the Export of Plants.

Certificates of health were issued, after inspection, in respect of 160 consignments of plants, exported to the countries mentioned below.

Country to which exported	Number of certificates issued in respect of				Total
	Rose Trees (including stocks)	Bulbs	Shrubs	Herbaceous Plants	
U.S.A.	15	1	—	—	16
Canada	55	3	3	2	63
New Zealand	23	3	—	—	26
Australia	9	—	—	—	9
Kenya Colony	5	2	—	—	7
France	4	—	—	—	4
South Africa	4	—	—	—	4
India	3	—	—	—	3
Other Countries	26	2	—	—	28
Totals	144	11	3	2	160

In addition, periodical inspections were made of the more important nurseries in Northern Ireland. These nurseries were found to show a very high degree of freedom from disease.

The Ministry kept in close touch with developments of the plant importation legislation of the various foreign countries to which Northern Ireland nursery stock is or might be consigned, and Northern Ireland exporters were notified of such developments as might be of interest to them.

*American Gooseberry Mildew and Black Currant Mite (Ireland)
Order, 1912.*

The number of cases of American gooseberry mildew and black currant mite reported during the year show a decrease as compared with that reported in the previous year. In 1924 11 cases of American gooseberry mildew were reported, as compared with 3 cases in the present year.

These figures demonstrate the efficacy of the sprays recommended by the Ministry for the control of American gooseberry mildew. Full information as to the nature and application of these sprays, which are being increasingly availed of by growers, may be obtained from any of the county instructors in horticulture or from the Ministry.

Eighteen cases of black currant mite were reported during 1925, as compared with forty-five cases in 1924.

Special research work has been undertaken by the Ministry in conjunction with the county horticultural instructors with a view to securing the control of this disease by scientific methods.

The three cases of American gooseberry mildew occurred in county Antrim, while six cases of black currant mite occurred in Antrim, eight in Armagh, one in Derry, and three in Tyrone.

Since its inception the policy followed by the Ministry has been to endeavour to restrict to a minimum the compulsory destruction of bushes under the provisions of the Order.

This Order also controls the importation of gooseberry and currant bushes from Great Britain, and during the period under review four licences in respect of 258 gooseberry bushes and seven licences in respect of 1,878 black currant bushes were issued.

Bee Pest Prevention.

The number of cases of foul brood and of Isle of Wight disease reported to the Ministry during the year by the county instructors in horticulture and bee-keeping amounted to 4 and 36 respectively.

The following table shows, *inter alia*, the distribution by counties of these reported cases :—

County	Number of Visits paid	Number of Stocks examined	Cases reported	
			Foul Brood	Isle of Wight
Antrim	98	229	—	4
Armagh	144	396	—	5
Down	116	326	—	3
Fermanagh	362	717	4	—
Londonderry	21	59	—	—
Tyrone	34	130	—	24

From the reports of the instructors it would appear that a large number of stocks of bees died from cold and starvation.

The following table shows the number of stocks of bees reported to the Ministry as existing in Northern Ireland during the last three years :—

Year.	No of Stocks.
1923	2,329
1924	2,754
1925	1,230

The decrease in the number of stocks on 1st April, 1925, is largely due to the unfavourable weather conditions during the "honey flow" in 1924, which prevented the bees from collecting nectar in sufficient quantities.

In order to assist in the replenishment of the Northern Ireland bee stocks the Ministry sanctioned a grant for the year 1925-26 to the Ulster Bee-Keepers' Association, to be applied under certain conditions to the distribution of new stocks and queen bees.

Weeds and Agricultural Seeds (Ireland) Act, 1909.

1. Noxious Weeds.

Steps were taken during the summer of 1925 to enforce the provisions of Part I. (Weeds) of the above-mentioned Act on

lines similar to those adopted in the previous year. Twelve temporary inspectors were employed throughout the Northern Ireland area for approximately six weeks from the beginning of July for the purpose of detecting and reporting to the Ministry cases of the prevalence of noxious weeds.

During the course of the operations 4,882 farms were visited, and in 3,545 instances the inspectors were able to secure the voluntary destruction of noxious weeds. It was found necessary to serve 1,337 notices requiring destruction within a specified time, and in practically all cases such notices were complied with. In two instances, however, the Ministry was obliged to institute proceedings. These cases had not been heard at the close of the year under review.

2. *Agricultural Seeds.*

The sampling of agricultural seeds under Part II. of the Act was continued in 1925 as in previous seasons. One hundred and thirty-eight samples of seed exposed for sale were officially drawn. These samples were analysed at the Ministry's seed testing station, and it would appear from the results of the analysis that the quality of the seeds on sale in Northern Ireland continues to be satisfactory.

Seeds Act, 1920.

Cross-channel importations of agricultural seeds are controlled by this Act and, with a view to ensuring the due observance of its provisions, representative samples of imported seeds were drawn during the year on the premises of certain Belfast wholesale merchants. Subsequent examination of the samples disclosed the fact that on the whole the quality of the seed imported from across the channel is satisfactory.

At the request of the English Ministry of Agriculture and Fisheries, and of the Board of Agriculture for Scotland, investigations were made of certain cases of sales of agricultural seeds by Northern Ireland traders to cross-channel buyers in which doubt existed as to the strict compliance with the provisions of the Act. Satisfactory explanations were forthcoming in all such cases.

Fertilisers and Feeding Stuffs Act, 1906.

As was mentioned in the Ministry's report for last year close touch is being kept with developments across the channel in connection with proposed Fertilisers and Feeding Stuffs legislation. The most important development in this connexion was the appointment by the Imperial Minister of Agriculture and Fisheries of a Fertilisers and Feeding Stuffs Advisory Committee, on which this Ministry secured representation, for the following purposes :—

1. To draw up schedules for the purpose of prescribing :—

(a) the fertilisers and feeding stuffs to which all the provisions of proposed legislation on the lines of the Report of the Departmental Committee on the Fertilisers and Feeding Stuffs Act, 1906, should apply, and those to which only the civil provisions of such legislation should apply ;

(b) Definitions of each of the articles or classes of articles mentioned above ;

(c) The statements as to the constituents present, and also as to the absence of certain substances in some instances, which should be given in descriptions and invoices ;

(d) Those commodities which should be regarded as “worthless” or “deleterious ;” and

2. To recommend the terms in which the valuable constituents should be stated in descriptions and invoices.

The report of this committee, which has now been issued, contains very valuable information on the specific points mentioned, and will be of the utmost value in drawing up the technical schedules to be included in the proposed Bill which is now being drafted.

As in previous years arrangements were made for the systematic drawing and analysis of samples of fertilisers and feeding stuffs on the Northern Ireland market, and from these investigations it would appear that these commodities are generally of a satisfactory quality.

The Ministry continued to impress upon both merchants and farmers the necessity for the giving of the statutory invoices in all cases of sales of artificial fertilisers or feeding stuffs. A circular on the subject was issued to the farming community.

During the year a very close watch was kept on the quality of the various patent or proprietary feeding stuffs on the Northern Ireland market. It was found generally that while such patent feeding stuffs were up to guarantee as required by the Act certain of them were being sold at prices out of all proportion to their actual feeding value. For instance, considerable attention was devoted to one particular feeding meal which was selling at between three and four times its actual feeding value. The Ministry continues to discourage the buying of feeding stuffs at such exorbitant prices, and Northern Ireland farmers have been advised before purchasing patent feeding stuffs to apply for the advice of the local agricultural instructor or overseer.

In the Ministry's last report reference was made to the institution of legal proceedings against a wholesale merchant who had supplied to a retail trader fish meal containing a high percentage of oil without furnishing the specific invoice required by the Act. Convictions were secured on each of the two following counts ;—

- (a) failing to furnish the statutory invoice, and
- (b) selling as a feeding stuff fish meal deleterious by reason of its excessively high oil content.

This case was of particular interest in view of the prominence of the question of the harmful effect on the Northern Ireland bacon curing industry of the improper feeding of fish meal to pigs.

In the other case mentioned in the Ministry's last report a conviction was secured in a case in which linseed cake meal containing a considerable percentage of pea-nut meal was sold without the statutory invoice.

10. FLAX AND POTATO INDUSTRIES.

(a) *Flax Industry.*

The total area under flax in Northern Ireland in 1925—37,786 acres—shows a reduction of 5,052 acres as compared with the acreage grown in the previous year. This decrease in the acreage may be assigned to (1) the substantial drop in prices in February and March, 1925, immediately prior to sowing time, (2) the low yield of 21.7 stones per acre obtained in 1924 as compared with the average pre-war yield of 30 stones per acre.

Although the low yields in post-war years can be attributed to a combination of various factors it appears evident that one of the main causes is the unsatisfactory character of the existing types of seed, and it is now quite apparent that if the flax growing industry in Northern Ireland is to be maintained it is imperative that supplies of seed of improved strains should be available for growers.

The propagation of pure line varieties of flax is now receiving considerable attention both at home and abroad. Holland, Denmark, Japan, and the United States of America are at present devoting attention to this important matter, but the quantities of seed propagated in these countries is still very small, and supplies on a commercial scale cannot be available from such sources for a considerable period. The Imperial Government, in co-operation with the Government of Northern Ireland, has taken up the question of the development of new pure lines, and accordingly the Flax Industry Development Society has been formed with financial assistance from the two Governments, with the object of building up in commercial quantities seed of the "J.W.S." variety, which has proved much superior to ordinary commercial varieties, and which has already reached a much more advanced stage of propagation than any other variety either in the United Kingdom or abroad. Last year 406 acres sown with "J.W.S." seed were grown in England. All the seed from this acreage will be sown next year to increase the supply, and it is anticipated that in the near future considerable supplies of this variety of seed will be available for Northern Ireland growers.

Variety Trials.—In 1924 variety trials were arranged by the Ministry at five centres in the Coleraine district, and the following pure lines were compared with several varieties of commercial seed.

“ J.W.S.”	Dutch Strain K.
Danish 21	Dutch Strain H.
Danish 40	

These pure-line varieties gave good results, and on an average represented a monetary increase of about 25% over the commercial varieties. No conclusive evidence, however, can yet be obtained as to which is the best variety.

Tests with similar varieties were carried out at the same number of centres in 1925, in which the hybrid variety 2 x 6 and the pure line variety “Saginaw” from U.S.A. were included. The results of the trials carried out during the two years will be published in leaflet form in due course.

Further tests were carried out in connexion with the saving of seed. A new system was tried in which the seed bolls were cut by means of a specially designed machine from the green flax crop immediately after the flax was pulled. The retting of the flax straw was carried out immediately after the flax was pulled, and the seed bolls cut off, the seed bolls being dried in racks roughly constructed of hedgerow timber. Results will be obtained as to the quality of the seed saved, yield of fibre, and also as to whether the cutting of the seed bolls results in any loss of fibre.

Propagation of Pure Lines of Flax.—At the grounds of the North West Agricultural School, Strabane, two acres of the hybrid 2 x 6 variety and half-an-acre of pure-line No. 6 variety were laid down by the Ministry. As the former variety proved much less promising in the trial plots at Coleraine than the pure line varieties with which it was compared it has been decided to discontinue propagating this variety on a large scale.

At the trial plots at Stormont, Belfast, the most promising of the Ministry's new varieties which were tested in 1924 were retained for further propagation in 1925. These included hybrid 2 x 6, pure line Nos. 6 and 27, M3/16, M7/18, and M1/14. With the exception of hybrid 2 x 6 these pure line varieties show considerable promise, but a decision as to their respective merits cannot be arrived at until further comparative trials are made.

Flax Demonstrations.—Sixteen demonstration plots were laid down at four centres during the season. The plots were treated with different quantities of various manures, and the demonstrations showed in a practical manner the effect of these treatments.

General.—The Ministry's flax plots at Coleraine, Stormont, and the North West Agricultural School, Strabane, were inspected during the year by members of the flax advisory committee.

In order that growers might be informed as to the quantity and quality of flax seed available for sowing in the 1925 season the Ministry collected information from a number of sources, which was embodied in a leaflet and issued widely to agricultural societies, farmers' unions, seed merchants, etc.

Instructors.—As in previous years seven officers were employed by the Ministry to give assistance and information to farmers in the growing of the flax crop and in giving advice in scutch mills.

Scutch Mills Act (Northern Ireland), 1923.

Prior to the opening of the scutching season the Ministry issued to all mill owners a circular setting forth the requirements of the Act, and emphasizing the need for compliance with its provisions. A copy of this circular will be found at page 145 of the appendices.

During the season the Ministry's inspectors visited 273 mills, in the great majority of which the Act appeared to be substantially observed. In 36 cases, however, it was deemed desirable to issue warnings to mill owners as to the need for a more careful compliance with the provisions of the Act, and in 9 cases legal proceedings against the mill owners were necessary. In each of these cases the offences comprised one or more of the following :—

- (a) Failure to supply suitable weighing appliances.
- (b) Failure to keep a proper record of scutching operations.
- (c) Failure to furnish the required statement as to the results of scutching particular lots of flax.
- (d) Purchasing tow otherwise than by weight.
- (e) Accepting tow as part payment of scutching charges.

In every case convictions on each count were secured, and the statutory penalty of £10 for each offence was imposed.

A circular, of which a copy will be found at page 146 of the appendices, was issued with the object of making known to farmers the protection afforded them by the Act as regards the disposal of their tow.

Tow Prices.—As the result of representations made to the Ministry during the last flax scutching season arrangements were made for the collection at regular intervals of information from various local centres as to the current prices being paid for tow. This information was issued to the public Press with the object of ensuring that farmers when disposing of tow might be aware of the prices ruling for that commodity.

(b) Potato Industry.

The most striking factor which has affected during more recent years the Northern Ireland potato export trade has been the

growing competition with continental exporters which our merchants have had to face, particularly in British markets. For example, the importation into the United Kingdom of potatoes from foreign countries had grown from some 232,000 tons in the year ended 30th September, 1923, to 334,000 tons in the year ended 30th September, 1924, and to 585,000 tons in the year ended 30th September, 1925.

It is abundantly clear that if this increasing foreign competition is to be successfully countered both the growers and exporters must, without delay, put forth their utmost efforts to place their potatoes on the market in first-class condition. Strict attention to grading, handling and bagging is urgently necessary to meet the situation.

The invasion of British markets by continental growers had naturally among other factors a very definite effect on potato prices. During the year ended 30th September, 1924, Northern Ireland growers received an average price of £5 12s 9d per ton for potatoes bought from them by shippers for export purposes. This price had fallen during the year under review to £4 2s 1d, and there is every indication that the season 1925-26 will show a further decrease in the price.

The following table setting forth the acreage under potatoes in Northern Ireland and the quantities exported therefrom during the years 1922-25 is interesting :—

Year	Acreage under Potatoes in Northern Ireland	Potatoes exported from Northern Ireland
1922-23	162,500	103,000 tons
1923-24	157,000	139,000 „
1924-25	154,000	125,000 „

Black Scab in Potatoes.

In the Ministry's last report the opinion was expressed that the general planting of varieties of potatoes immune from black scab disease constitutes the most effective safeguard against the spread of this serious disease. Throughout the year the Ministry has continued its efforts to secure by voluntary means a considerable increase in the area under immune varieties, and certain progress has undoubtedly been made.

For example, of the total acreage under potatoes in Northern Ireland in 1925, 48% was planted with immune varieties. The corresponding percentages for the years 1924 and 1923 being 40 and 33 respectively.

It is interesting to note that the immune variety which is finding increasing favour with Northern Ireland growers is "Arran Victory," of which almost 42,000 acres were planted in

1925, as compared with some 11,000 acres in 1923. The non-immune varieties, "Up-to-Date" and "Skerry," which in past years constituted so large a proportion of our crop, have declined from about 40,000 and 24,000 acres respectively in 1923 to 30,000 and 11,000 acres in 1925. Although these figures are encouraging the Ministry is satisfied that a much more rapid extension of the area under immune varieties is essential if the spread of disease is to be effectively countered.

In pursuance of the above policy the Ministry arranged for the purchase of some 50 tons of immune seed for planting last year, and for its distribution, free of charge, to farmers selected by the Ministry throughout Northern Ireland. The farmers receiving such seed were called upon to comply with the following conditions :—

(1) To undertake to supply to the Ministry free of charge a quantity of the resulting produce equal to the quantity of seed given by the Ministry, or, alternatively, to repay the Ministry by March, 1926, for the quantity of seed supplied by the Ministry at the rate of the current market price obtained for the produce; and

(2) To undertake to sell to potato growers for seed purposes as much of the remainder of the produce as might be required at a price not to exceed the current price of ware potatoes in their respective districts by 20/- per ton.

Under this scheme it is hoped that there will be a substantially increased supply of immune seed available for planting in Northern Ireland in 1926.

Unfortunately during the year it was necessary to schedule an area in the neighbourhood of Cookstown, and consequently the Black Scab in Potatoes (Northern Ireland), No. 1 Order, 1925, was issued (copy will be found at page 138 of the appendices). Towards the close of the year under review a number of cases of this disease were found also in the southern portion of county Londonderry. All the holdings on which the disease was found have been made prohibited areas, and the question of scheduling the district was under consideration at the close of the period covered by this report.

It is satisfactory to record that growers generally continue to co-operate with the Ministry in its efforts to control the spread of the disease. In 18 cases, however, the illegal movement of potatoes from scheduled to non-scheduled areas was detected, and proceedings were instituted against the offending parties, convictions being secured in each instance.

Experimental Work.

The experimental work carried out by the Ministry during the year in connexion with potatoes followed generally the lines of that carried out in 1924. These experiments were laid down at

the grounds of the plant breeding station, Stormont, the North West Agricultural School, Strabane, the Kilkeel trial grounds, and various centres in the scheduled areas.

1. *Variety Trials*.—(a) Tests which included 62 varieties were carried out at Stormont and the North West Agricultural School, Strabane, on same lines as in 1924.

(b) In the scheduled area comparative tests were made of Arran Consul, Dunaverney, White Arran Victory and Lochar at nine centres.

The object of these tests is to discover new immune varieties which are best suited to replace the non-immune varieties still extensively grown.

2. *Change of Seed Tests*.—Seed of seventeen varieties of potatoes procured from various sources were planted at Stormont, and compared with seed of corresponding varieties from stocks grown at Stormont and Dundonald for several preceding seasons.

In addition demonstrations were also carried out at nine centres in the scheduled area, in which stocks of seed potatoes of Lochar variety obtained from five different districts in Northern Ireland and two districts in Scotland were compared with local stocks of the same variety. The object of these demonstrations was to show the effect of leaf roll and mosaic in causing rapid deterioration in potato stocks, and to ascertain the districts in the North of Ireland from which the healthiest and most vigorous stocks of potatoes can be obtained.

A further experiment was carried out at Strabane to compare seed obtained from clay soil with that obtained from bog soil.

3. *Effect of Planting Seed at Different Distances Apart*.—This test was carried out at the grounds of the plant breeding station, Stormont, and included seven varieties as against one variety last year. The various distances at which the seed was planted apart were 10, 15, and 20 inches.

4. *Tests of Different Methods of Cutting Seed*.—These trials were conducted at Strabane, the seed being cut as follows:—Three weeks, two weeks, one week before planting, and day of planting. In addition seed cut day of planting and untreated was compared with seed cut day of planting and treated with a solution of nitrate of soda.

Selection of Seed Tests.—In 1922 selections were made at the North West Agricultural School from high yielding plants of several varieties at time of digging, and these selections were grown alongside similarly sized tubers taken from bulk. In 1923 further selections were made from the crops produced from the selected seed, and these tubers then selected were grown in 1924 alongside drills planted with tubers taken from the crop produced by the seed taken from bulk the previous year. The

results of these tests indicated that by selecting on the lines adopted, the yielding capacity of a stock of seed could, at Strabane farm, be maintained in a satisfactory way. Part of the produce of both the selected and bulk seed was reserved in 1924 and grown again in 1925.

The results of the above-mentioned tests and trials will be published in leaflet form in due course.

Immunity Trials.

An arrangement made with the Ministry of Agriculture and Fisheries and Board of Agriculture for Scotland under which new varieties of potatoes which are tested for immunity for the second year at Ormskirk, England and Philipstown, Scotland, are also tested concurrently at Kilkeel. Under this arrangement 84 varieties were tested, 39 being received from the English Ministry, 36 from Board of Agriculture for Scotland, and nine from potato raisers in Northern Ireland.

In addition 66 varieties were submitted by inspectors and local growers for testing both for identification and for immunity.

Approximately 100 unofficial tests to assist potato raisers in ascertaining whether new varieties at an early stage in their propagation are immune were made during the year.

Potato Demonstrations.

The Ministry notes with pleasure that an increasing interest is being taken in the potato demonstrations provided by the Ministry, with the object of (1) comparing new varieties of potatoes of recent introduction with standard varieties, (2) judging the effect of a change of seed, and (3) comparing the results obtained from planting seed at different distances apart, as evinced by the fact that during the last demonstrations held at Stormont about 600 people availed themselves of the opportunity given them to view the Ministry's plots there.

Supply of Seed Potatoes and Seed Oats in Poor Districts.

1. *Clogher District.*—On the receipt of representations as to the inability of many small farmers in the vicinity of Clogher to provide themselves with seed potatoes and seed oats for planting in the present season, the Ministry made a careful investigation of the general position in the district. The matter was further discussed with representatives of a committee of local gentlemen who were prepared to arrange for the actual distribution of any seed which might be supplied, and to guarantee repayment to the Ministry of the price at which seed might be sold to needy farmers.

It was decided that real necessity for relief existed only in the mountainous districts immediately to the south of Clogher town. It was, accordingly, arranged that the Ministry would purchase

either directly or through the committee such quantities of seed as might be required, and that the seed would be distributed by the committee to necessitous farmers whose holdings did not exceed an annual valuation of £12. It was arranged that no farmer should receive more than 5 cwt. of potatoes nor more than 2 cwt. of oats.

The seed so purchased was sold on credit by the committee at the following prices :—

“Kerr’s Pink” seed potatoes 8/- per cwt.

“Arran Victory” seed potatoes at cost price.

Seed oats at 2/- per stone.

The difference between the aggregate amount received through such sales and the actual gross cost of the seed was defrayed from funds at the disposal of the Ministry of Agriculture. The committee will pay the Ministry of Agriculture for seed supplied at the prices above mentioned in two equal yearly instalments falling due on 1st January, 1926, and 1st January, 1927, respectively.

The following quantities of seed were distributed under this arrangement :—

4 tons 2 cwt. “Kerr’s Pink” seed potatoes.

7 tons 3 cwt. “Arran Victory” „

5 tons 12½ cwt. of seed oats.

2. *Enniskillen and Irvinestown Unions of the County Fermanagh.*—The Ministry of Home Affairs arranged with the guardians of the above poor law unions that special measures should be taken in these two areas for the supply of seed potatoes to necessitous farmers of under £15 valuation, and to deserving labourers—no farmer to receive more than 5 cwt. of potatoes and no labourer more than 2 cwt. The seed was purchased by the Ministry of Agriculture and distributed by the guardians to necessitous persons at the rate of 7/- per cwt.—the difference between this price and the gross cost including carriage being borne by funds at the disposal of the Ministry of Agriculture. The guardians will remit to the Ministry of Agriculture the value at the selling price of 7/- per cwt. of seed supplied, and the guardians will be enabled to make this payment by means of a loan from the Ministry of Finance. The amounts due to the guardians by persons to whom seed has been issued will be collected from the parties concerned by the levy of a special rate. Statutory authority for this procedure is embodied in the Seed Potatoes Supply Act (Northern Ireland), 1925. Under these arrangements 80½ tons of potatoes were supplied to the Enniskillen guardians and 69½ tons to the Irvinestown guardians.

Immune Varieties and Inspection in Scheduled Areas.

Three further varieties, i.e., America, Ally and Resistant Snowdrop (Witchill) were added to the list of varieties of potatoes

which might be planted in scheduled areas in 1925 without a licence. The list for the year comprised twenty varieties as follows :—

Great Scot.	Irish Queen.
Lochar.	Crusader.
Majestic.	Tinwald Perfection.
Shamrock.	Resistant Snowdrop (Witchill).
Edzell Blue.	Rhoderick Dhu.
Arran Comrade.	Golden Wonder.
America.	Arran Victory.
Irish Chieftain.	Champion.
Kerr's Pink.	Templar.
Arran Rose.	Ally.

Certain other immune varieties were also permitted to be planted under licence where the Ministry was satisfied as to the purity of the seed. Ninety-eight seed licences were issued principally for the varieties Dunaverney, Immune Ashleaf and Katie Glover.

The inspection of all potato crops grown in the scheduled area during the 1925 season was again carried out, and as a result certificates as to purity were issued for all satisfactory crops. Several notices requiring the owners of impure crops to have the rogues removed were issued, and in each case the terms of the notice were fully complied with.

Export from Scheduled Area.

During the period under review 39,371 tons of potatoes were exported from the scheduled area to ports in England and Wales, as compared with 47,540 tons in the previous shipping season. Some indication of the cause for the decline evidenced by these figures will be found in the introductory paragraph on page 83.

All the above were inspected, and certificates as to the quality of the potatoes were issued.

Inspection of Growing Crops of Potatoes Outside Scheduled Area.

The scheme of inspecting growing crops of potatoes carried out in 1924 was again in operation in 1925 on similar lines, i.e., purity certificates were issued for crops of immune and certain non-immune varieties which reached a standard of purity of 99½%. With regard to crops which are not sufficiently pure to qualify for a purity certificate, but which reached a standard of purity of not less than 97% "Inspection" reports were issued which enabled the grower of such crops to comply with the provisions of the Seed Act, 1920, when exporting these potatoes to England and Wales. As a result of the Ministry's propaganda in this direction the number of applications for inspection of growing crops showed a considerable increase, but there is still great leeway to be made up in this connexion, and propaganda directed towards an extension of the area

under certified crops is being vigorously continued. It may here be observed that there is no hope of developing our existing seed potato trade unless seed is kept pure, and the only practicable way of doing so is to plant only pure seed and to have the growing crops inspected.

Purity certificates were issued as follows in each of the past three years :—

YEAR	Immune Varieties		Non-Immune Varieties	
	No. of Crops	Acreage	No. of Crops	Acreage
1923	356	819	—	—
1924	624	1,266	210	550
1925	1,097	2,130	386	968

Lists of these certified crops will be issued to potato merchants and potato growers.

Export from Non-Scheduled Area.

In addition to the large quantities of potatoes inspected before export from the scheduled area the Ministry, at the special request of merchants, also inspected the following quantities sent from non-scheduled areas to other countries. The quantity thus exported during the period under review showed an increase of almost 100% over the similar inspected exports for the year ended September, 1924. Particulars are as follows :—

Malta,	3,762 tons.
Canary Islands,	2,743 „
Cyprus,	160 „
Portugal,	113 „
Great Britain,	177 „
Other Countries,	120 „

Total inspected from non-scheduled areas,	7,075 tons.
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The health certificates required by the countries concerned were issued by the Ministry regarding the above exports.

Three hundred and twenty-five certificates that specified localities were free from black scab were issued in respect of consignments chiefly intended for Great Britain.

Northern Ireland potato exporters were informed by the Ministry of the making in August last by the Board of Agriculture for Scotland of the Irish Potatoes Importation (Scotland) Order, 1925, which provides that, except under the conditions of a licence granted by the Board, consignments of potatoes grown in Northern Ireland cannot be imported into Scotland unless accompanied

by a certificate from the Ministry to the effect that the land on which the potatoes included in each consignment were grown is not situated in a district scheduled by the Ministry on account of black scab disease, and that so far as the Ministry is aware black scab disease has not occurred on the land nor within one mile thereof. The necessary arrangements were made by the Ministry for the issuing of the certificates in question. A copy of the circular issued to the trade by the Ministry in this connexion will be found at page 148 of the appendices.

Potatoes Importation (Ireland) Order, 1920.

Under this Order seventy licences for the importation of seed potatoes from Great Britain were issued during the year. Forty-seven licences were granted for the importation of $7\frac{1}{2}$ tons of seed from England, and 23 licences were issued in respect of $135\frac{1}{2}$ tons from Scotland.

The varieties chiefly imported were Arran Victory and Kerr's Pink.

Foreign Seed Potatoes (Northern Ireland) Order, 1925.

With the object of further obviating the danger of the spread of disease through the importation into Northern Ireland of seed potatoes from foreign countries the Ministry made the above-mentioned Order, which provides that seed potatoes grown anywhere outside of Ireland, England, Wales, Scotland and the Channel Islands, may not in Northern Ireland be sold or offered for sale for planting, nor planted without a licence from the Ministry.

A copy of this Order will be found on page 136 of the appendices.

Colorado Beetle.

In order to protect Northern Ireland farmers from the introduction of the destructive insect known as the Colorado Beetle which infests large areas in the United States, the Ministry issued in December, 1924, the Colorado Beetle (Northern Ireland) Order of 1924, which prohibited the landing in Northern Ireland of any potatoes grown in the United States.

Later for similar reasons it was found necessary to issue the Colorado Beetle (Northern Ireland) Order of 1925, prohibiting the importation of potatoes from Canada.

Copies of these Orders appear on pages 137-138 of the appendices.

11. FORESTRY.

During the year 260 acres of additional land at Baronscourt were leased by the Ministry, so that the total area at this centre actually taken over by the Ministry is 1.152 acres, which included 179 acres of young wood.

In the following table particulars are given for each centre of the total area available to the Ministry for afforestation, the area planted up to 30th September, 1921, the area planted in each succeeding year, and the area proposed to be planted in 1925-26 :

Centre	Total Area	Area planted up to 30th September, 1921	Area Planted				Total area planted up to 30th September, 1925	Area proposed to be planted in 1925-26
			1921-22	1922-23	1923-24	1924-25		
Baronscourt	Acres 3,080	Acres *179	Acres 293	Acres 174	Acres 211	Acres 179½	Acres 1,036½	Acres 185
Ballykelly	254	53½	20½	9½	12	7½	+103	7
Castlecaldwell	303	103	41	26½	19½	Nil	+190	9
Knockmany	468	168	23	34½	19½	20	+265	21½
Newcastle	578	—	—	—	62	73	135	100
Totals	4,683	503½	377½	244½	324	286	1,729½	322½

*This area was under young woods when the land was acquired.

+In addition the following areas are under old woods :—Ballykelly, 144 acres; Castlecaldwell, 87 acres; Knockmany, 155 acres.

Coniferae only were planted in the 280 acres mentioned in the foregoing table, the species being Norway and Sitka Spruce, 59.6 per cent.; Scots and Corsican Pine, 17.3 per cent.; European and Jap Larch, etc., 12 per cent.; Douglas Fir, 11.1 per cent.

In 88 cases during the year permission, as required by sections 32 (1) (b) and (2) of the Irish Land Act, 1909, was given to occupiers of holdings to cut down or uproot trees which, in the opinion of the Ministry, were not necessary for the ornament or shelter of the holdings concerned.

12. STATISTICS AND INTELLIGENCE.

The annual agricultural statistics for Northern Ireland were collected in June, 1925, by five hundred and thirty-eight members of the Royal Ulster Constabulary, each of whom was placed in charge of one or more enumeration districts, and was responsible for enumerating the areas under crops and the numbers of live stock in the district allocated to him.

This was the third occasion, since the inception of the Ministry, upon which the services of police enumerators were available in connexion with the annual statistics, and may be said to mark the final reversion to the methods pursued in the collection of these statistics prior to 1919. In that year the political condition of Ireland caused the abandonment of the system of enumeration introduced in 1847, when the agricultural statistics of this country were first collected, and during the years 1919 to 1922 our agricultural statistics were based on signed returns received direct from a large number of farmers. The change from the method of estimating the area under different crops and the numbers of live stock from a number of sample returns received from various landholders throughout the country to a system of complete enumeration by members of the Royal Ulster Constabulary necessitated a continuance of the two systems concurrently for a period of at least two years in order to form an opinion regarding the normal divergency between the figures obtained under each system. Accordingly, in 1923 and 1924 many farmers were asked to supply the Ministry direct with particulars regarding their crops and live stock in addition to furnishing this information to the police enumerator for their district. The information thus obtained has enabled the Ministry to investigate the relative error of the figures compiled from farmers' returns in 1923 and 1924, and as a result a revision of the published statistics for the years 1919 to 1922 will be effected. These revised figures will appear in the First Annual Report on the Agricultural Statistics of Northern Ireland, which it is hoped to publish in 1926.

The year 1925, therefore, has been the first in which the practice of obtaining signed returns from farmers regarding the crops and live stock on their holdings has been discontinued. This method of collecting the annual agricultural returns is that which

is pursued by the Ministry of Agriculture and Fisheries in England and Wales, and by the Board of Agriculture in Scotland. In Great Britain, however, this system has been in vogue since the year 1866, when the agricultural statistics were first collected, and has obtained the sanction of long custom and usage. With the exception of a very small percentage of occupiers who refuse to supply information, and for whose holdings estimates have to be made by the crop reporters, every farmer in Great Britain supplies a return, and from these returns particulars are compiled by the Departments of Agriculture in England and Scotland regarding the division of land and the live stock population of the whole country. The introduction of this method into Ireland in 1919, however, was regarded only as a temporary measure necessitated by the political disturbances of the period, which rendered it impossible to continue the normal system of collection by members of the Royal Irish Constabulary. The latter system was introduced in 1847, when the famine of that year caused the Government to collect information regarding the production of foodstuffs in each district in Ireland. Under the direction of Captain Thomas A. Larcom, an officer of the Board of Works, the country was divided into a number of enumeration districts, each of which was placed in charge of a member of the constabulary force. The forms which were used in the collection of the statistics have since undergone great modifications, but the actual machinery of collection has remained substantially unchanged.

This system, by which the information to be collected is obtained from the occupier by an official teller, who enters the particulars supplied in a specially prepared enumeration book, is particularly suited to a country of small holdings, while the opportunity afforded of checking the information supplied by personal observation on the part of the enumerator should constitute a valuable check upon the accuracy of the returns.

The scope of the police enumeration in June, 1925, was very considerably enlarged on account of the additional information which it was desired to collect in connexion with the census of Agricultural Production which is being taken by the Ministry in respect of the year 1924-25. The complete list of particulars regarding which statistics were collected this year is as follows :—

Acreage under crops, pasture, fruit, woods, etc.

Acreage under the different classes of fruit.

Acreage under each variety of potatoes.

Acreage for grass seed production.

Numbers of live stock.

„ of milch cows and heifers in calf according to breeds.

„ of sheep according to breeds.

Weight of wool clipped.

Killings and sales of poultry.

Production of eggs.

Mortality amongst horses, cattle, sheep and pigs from all causes.

Mortality amongst cattle and sheep from fluke.

Numbers of cattle, sheep and pigs slaughtered for food on farms.

Slaughterings of cattle, sheep and pigs in public and private abattoirs.

Births of foals, calves, lambs and pigs.

Quantity of honey and wax produced.

Number of holdings according to size.

Number of persons engaged in agriculture.

Number of persons holding more than one farm.

Number of farms extending into one or more enumeration districts.

Number of machines and implements used on farms.

Particulars regarding scutch mills, corn mills and malt houses.

Particulars regarding forestry operations.

A preliminary statement showing the acreage under crops and the numbers of live stock in Northern Ireland at 1st June, 1925, was issued on August 19th.

Yields of Crops.—In addition to the statistics referred to above the police also collected the usual particulars regarding the average yield per statute acre of the principal crops. Enquiries in respect of each enumeration district were made as follows :—

- (1) Yield of the hay crop and weight of grass seed saved per acre.
- (2) Yields of wheat, oats, barley, beans, potatoes, cabbages and vetches.
- (3) Yields of turnips, mangels, carrots, parsnips and flax (scutched).

These returns, which are based on information supplied by a large percentage of the most important farmers in Northern Ireland, are used for estimating the total production of the principal crops. Five statements dealing respectively with the production of the hay, cereal, potato, root and flax crops were issued to the press and to various persons interested immediately the particulars were available. A collected produce statement showing the production of the principal crops in Northern Ireland in 1924 was also issued in February.

Other Statistical Enquiries.—Reports regarding the following matters were obtained through various sources :—

Prices of live stock at fairs.

Prices of agricultural produce at markets.

Numbers and weights of pigs purchased for bacon curing.

Creamery trading.

Stocks and production of fertilisers and manures.

Retail prices of agricultural seeds, feeding-stuffs and manures.

Conacre lettings.

Five reports dealing with the average prices obtained for live stock at various fairs and markets in Northern Ireland are issued each week in addition to a weekly report, which is published under statutory authority, regarding the prices and live weights of animals sold at the Belfast cattle market.

Public attention has recently been focused on the discrepancies which exist between the price obtained by the farmer for his produce and the price charged by the retailer to the customer. In the words of the members of the Linlithgow Committee on the Distribution and Prices of Agricultural Produce, "the fundamental problem of the cheap and efficient distribution of food-stuffs is one of the most pressing and important with which modern society is faced." The revelations of the Food Council have forced public opinion to the conclusion that the spread between producers' and consumers' prices is too wide. It is often stated that the farmer does not get his fair share of the profits made out of his produce, and the Linlithgow Committee emphasized the importance of developing a marketing sense amongst agriculturists generally. In this connexion the great value of up-to-date and reliable information regarding the prices of agricultural produce is generally acknowledged, and the Ministry has decided to issue every Monday a statement showing the average prices obtained in Northern Ireland for certain classes of agricultural commodities during the previous week. These prices are based on returns from several of the most important markets in the six counties, and thus enable farmers to compare the prices which they realize for their produce at local markets with the average prices prevailing throughout the province as a whole. Prices for the corresponding week in the previous year are also included in the statement.

Census of Production.

In the formulation of trade policy and in the consideration of broad principles of taxation it is important for the Government to be in possession of reliable information regarding aggregate national production as well as the output of particular industries. With the object of securing this information an Act was passed by the Imperial Parliament in 1906 providing for the taking of a quinquennial Census of Production of the United Kingdom. Under this Act the first Census of Production was taken in 1908. A second census fell due in 1913, but the outbreak of war interrupted the tabulation of the results, which were never published. Accordingly, there has been an interval of sixteen years since the last stocktaking of the production of the United Kingdom was made.

The Board of Trade is responsible for the conduct of the industrial census in both Great Britain and Northern Ireland. A

census of industry without a census of agriculture would, however, give a very incomplete account of national production, particularly in Northern Ireland, where approximately fifty per cent. of the population live in rural districts, and are principally occupied in agricultural pursuits. Consequently the Departments of Agriculture in England, Scotland, and Northern Ireland have arranged to conduct an inquiry into the production of agriculture simultaneously with the inquiry regarding industrial production which is being made by the Board of Trade.

The object of the Census of Agriculture, therefore, is to ascertain the total output of the agricultural industry in Northern Ireland. In the first place it is necessary to determine the actual volume of physical production in the case of crops and live stock. The statistics regarding the acreage under crops, coupled with the returns regarding average yields which are collected in the autumn of each year, enable the production of the principal crops to be ascertained annually. Particulars regarding the output of live stock and of live stock products are much more difficult to estimate, however, and most of the supplementary enquiries which were made this year deal with various aspects of the live stock industry. In addition to the inquiries regarding births, deaths, and slaughterings of live stock, weight of wool clipped, killings and sales of poultry and production of eggs, which were made from farmers by the police enumerators, the itinerant instructors in agriculture in each county were also asked to supply certain information regarding the practice of agriculture in their districts. On the basis of this information it is hoped to frame an estimate of the total production of crops and live stock in the country.

A large part of the crops and live stock products which are raised on farms, however, is used for further agricultural production, e.g., crops fed to live stock on farms or used as seed; milk fed to calves and pigs. Accordingly, to arrive at the gross output of the agricultural industry, it is necessary to exclude that part of the gross production which is used in this way. Investigations into the disposal of the various crops and live stock products are being made with the object of ascertaining the quantity of each commodity which is so used. After the gross output has been determined, in terms of both quantity and value, it is further necessary to take into account the value of materials such as seeds, fertilizers, artificial manures and feeding stuffs imported on to farms in the six counties. This outlay on the part of the farmer has to be deducted from his receipts for the sale of his produce in order to arrive at the net output of the land. This net output does not represent the farmer's profit, but is the fund available for the payment of rent and wages as well as profits. As its very name implies, however, the investigation which is being conducted by the Ministry is concerned only with production and the question of the distribution

of the net output of the industry among the various factors of production—land, labour, and capital—is outside the scope of the enquiry.

In order to facilitate a comparison between the relative productiveness of agriculture and other industries, an attempt will be made to estimate the capital invested in agriculture in Northern Ireland. Particulars regarding the number of workers engaged in agriculture have also been collected. It will thus be possible to compare agriculture with other industries as regards output per worker and output per unit of capital.

It is sometimes forgotten that very considerable differences exist in the organization of different farms, and that agriculture is a generic term covering many different forms of production. Accordingly an attempt will be made to divide the farms of the country into three broad categories—arable farms, pasture farms and mixed farms—and some investigation into the characteristic features of each class will be made.

Census of the Scutching Trade.—On the occasion of the first Census of Production in 1907 the flax scutching trade was included in the scope of the industrial census. On this occasion, however, the Ministry was asked to include this industry in the scope of the Census of Agriculture, and, accordingly, various enquiries have been made during the year in order to enable the output of the scutching trade to be calculated.

Intelligence.

The intelligence section is responsible for the collection of information for the Ministry. A regular communication and exchange of publications is maintained with agricultural departments, schools and research institutions both at home and abroad. In this way the Ministry is kept informed regarding every important development in other countries affecting either the administrative or technical aspect of agriculture. The branch has also established a press cutting bureau, which examines a large number of newspapers and journals from which relevant extracts are made and brought to the notice of those officers of the Ministry interested.

The duty of disseminating information for the Ministry also devolves upon this section. The application of scientific research to agriculture has led in recent years to many important developments affecting the industry, but it is essential that these developments should be known to the ordinary farmer. A series of leaflets dealing with various aspects of agriculture and farm practice is being issued by the Ministry, and the circulation of these leaflets is in charge of the branch, which distributed upwards of eighty thousand in 1924-25.

The total number of leaflets issued to date is thirty-five, including ten special leaflets. The following were the additions and revisions made during the year :—

Flax Seed (1925) Revised.

Potato Variety Experiments, 1924.

Marketing of Dead Poultry.

How to Feed Linseed to Calves.

Chicken-rearing on the Farm.

A Portable Poultry House for the Farm.

The Leather Jacket Grub.

The Handling and Care of Wool.

A Sectional Laying House.

The Feeding of Steamed Bone Flour to Farm Stock.

Baby Beef Experiments, 1923-24.

How to Produce Milk that will keep Sweet.

Seeds Mixtures.

Sale of Eggs by Weight.

Plant Breeding Plots and Potato Experiments.

Pig Feeding Mixture (Handbill).

A pamphlet dealing with the production of Ulster poultry and dairy produce was prepared in connexion with the agricultural exhibit in the Ulster Pavilion at Wembley. Several thousand copies of this booklet were distributed to the general public at the Exhibition itself, while with a view to enlivening the interest of cross channel importers in the agricultural products of Northern Ireland, arrangements were made for a large number of copies to be distributed to their members by wholesalers' associations in Great Britain.

A considerable number of individual inquiries from farmers regarding various aspects of agriculture were also dealt with.

The steady increase in the size of the reference library, which has been still further enlarged by the addition of approximately 900 publications, necessitated the provision of extra accommodation during the year.

The statement on agricultural conditions in Northern Ireland, which is compiled from reports received from the agricultural instructors and market reporters, was issued each month. This report gives a summary of the weather conditions prevailing, the condition of crops and live stock generally, and receives wide publicity in the Northern Ireland press and in the cross-channel agricultural papers.

A special report on the condition and prospects of the fruit crop this season was issued to the press in July. The information contained in the statement was obtained from the county horticultural instructors and other leading horticulturists throughout Northern Ireland.

Market Intelligence.

It was decided to continue during the year 1925/26 the butter market intelligence scheme inaugurated in 1922. All participating creameries are, through a system of daily reports, afforded early and reliable information regarding prices and conditions

obtaining in the principal British markets. Forecasts regarding the probable trend of the markets, based on reports from trade correspondents or culled from trade journals, are also included. Actual prices obtained by certain creameries are ascertained by telegram, and this information is included in the daily market report without, however, disclosing the names of the creameries concerned. In addition the Danish f.o.b. price is wired to creameries on Tuesdays and Fridays, while particulars of the Copenhagen official quotation are issued each Thursday.

The Ministry desires again to record its obligations to the Royal Ulster Constabulary and other agencies for their very useful help in the collection of statistics during the past season.

13. SURVEYS.

Ordnance Survey.

It is interesting to note that as a result of the recent land purchase legislation the demand for ordnance survey maps of Northern Ireland during the past three months has been greatly in excess of normal. During the year some 19,000 maps in all were sold of a value of over £2,300. Of these sales almost 8,000 maps to the value of £1,050 were made during the three months ended September, 1925. During the preceding three months only 3,200 maps valued at £390 were sold.

The attention of the Ministry has been given to the question of ensuring, so far as may be possible, the safe custody of record copies of the various Ordnance Survey publications relative to Northern Ireland. This matter has now been satisfactorily arranged with the Public Record Office, Northern Ireland.

The forthcoming census for Northern Ireland will be assisted by the Ordnance Survey Department, which is engaged on the preparation of special maps to be used during the taking of the census.

Field Work.—The revision of the 25 in. plans of the county Londonderry occupied during the year the whole time of the survey ground staff. Seventy-seven thousand acres were revised and 140 miles were re-levelled.

Drawing and Printing.—The preparation of revised maps of the counties of Down and Antrim was proceeded with, and some 35 maps so revised have been completed and published.

The whole of the 6-inch scale sheets on which the county borough of Belfast falls have been revised from the latest 25 inch scale maps, so that there is now available an up-to-date map of the entire county borough.

Special Road Map.—In conjunction with the Ministry of Home Affairs for Northern Ireland the survey department is engaged on the preparation of a special map of Northern Ireland, which will show all first and second class roads as classified by the former

Ministry. It is hoped that the new map will be ready for issue to the public at an early date.

Printing.—Over 7,000 maps have been printed. This number comprises not only copies of new maps, but re-prints of old maps, which are necessary to maintain existing stocks and to meet the normal public demands.

In this connexion it might be mentioned that on the 31st March, 1925, approximately one hundred and twenty thousand copies of maps were held at the survey office.

(b) *Geological Survey.*

A small supply of memoirs to accompany maps has been obtained. The demand for geological maps has been very small. It cannot be too generally known that the original field documents of this survey are available for reference in connexion with research work, etc.

I have the honour to be,

Your Grace's faithful Servant,

E. M. ARCHDALE,

Minister.

JAMES S. GORDON,
Secretary.

MINISTRY OF AGRICULTURE,
WELLINGTON PLACE, BELFAST.
15th January, 1926.

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 J. J. McFerran (Agricultural Overseer).
 T. C. Skelly (Agricultural Overseer).

<i>Chairman:</i>	... A. L. Clark, J.P., Moyola Lodge, Castledawson.
<i>Secretary:</i>	... T. K. Caldwell, Courthouse, Coleraine.
<i>Instructors:</i>	... D. R. Aiken (Agriculture).
	A. McL. May (Horticulture and Bee-keeping).
	Miss G. McLean (Poultry-keeping).
	A. J. McFarland (Agricultural Overseer).
	E. Graham (Agricultural Overseer).

Chairman: ... John Johnston, Mountjoy East, Omagh.
Vice-Chairman: ... Thomas Hegan, J.P., Desertcreat, Tullyhogue.
Secretary: ... W. Walsh, Courthouse, Omagh.
Instructors: ... E. S. Daly, A.R.C.Sc.I. (Agriculture).
 W. J. Patterson, A.R.C.Sc.I., N.D.A. (Agriculture).
 J. Morrison, B.Sc., N.D.A. (Agriculture).
 S. J. Magill (Horticulture and Bee-keeping).
 Miss M. H. Davidson (Poultry-keeping).
 P. Dolan (Agricultural Overseer).
 J. M. Flanagan, Agricultural Overseer).

**Account of Parliamentary Grants in the year ended
31st March, 1925.**

Vote Class V., No. 1, Ministry of Agriculture.

(Moneys voted by Parliament to defray the Salaries and Expenses of the Ministry.)

RECEIPTS.				EXPENDITURE.			
	£	s	d		£	s	d
Parliamentary Grant ...	46,544	0	0	Salaries, Wages and Allowances ...	34,583	18	2
				Travelling, Subsistence & Removal Expenses ...	4,009	9	8
				Rent and Rates ...	545	13	3
				Fuel, Light, Water, Cleaning Articles, etc. ...	269	16	2
				Maintenance & Repairs... ..	93	14	0
				Furniture and Fittings... ..	159	0	3
				Printing	1,936	4	3
				Stationery, Books and Office Supplies	517	7	2
				Law Charges	15	8	8
				Postage, Telegrams and Telephones	1,671	13	5
				Incidental Expenses	594	0	1
				Special Services	—	—	—
				Miscellaneous	375	4	5
				Balance on 31st March, 1925 (to be surrendered)	1,772	10	6
	£46,544	0	0		£46,544	0	0

Account of Parliamentary Grants in the Year ended 31st March, 1925.

Vote Class V., No. 3, Ministry of Agriculture.

(Moneys voted by Parliament to defray the Expenses of the Ministry in respect of Ordnance Survey and Geological Survey).

RECEIPTS.				EXPENDITURE.			
	£	s	d		£	s	d
Parliamentary Grant ...	9,687	0	0	Salaries, Wages and Allowances ...	7,041	1	5
Appropriations-in-aid ...	1,678	15	8	Travelling, Subsistence & Removal Expenses ...	158	0	4
				Rent and Rates ...	247	15	10
				Fuel, Light, Water, Cleaning Articles, etc. ...	87	18	0
				Maintenance and Repairs ...	172	10	3
				Furniture and Fittings ...	22	12	3
				Incidental Expenses ...	182	2	2
				Postage, Telegrams and Telephones ...	33	7	3
				Special Paper, Inks and Materials for Map Production ...	530	9	3
				Geological Survey ...	48	16	11
				Balance on 31st March, 1925 (to be surrendered) ...	2,841	2	0
	£11,365	15	8		£11,365	15	8

Suspense Accounts in the year ended 31st March, 1925.

Account.	Balance on 1st April, 1924.	Receipts in 1924-25	Payments in 1924-25	Balance on 31st March, 1925
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Exchequer Extra Receipts ...	—	145 3 6	145 3 6	—
Income Tax deducted from Salaries ...	913 15 4	—	913 15 4	—
Cost-of-living bonus recouped to County Committees of Agriculture and Technical Instruction and repayable by the Ministry of Education (Northern Ireland) ...	11 8 0	85 19 2	71 8 0	3 3 2
Insurance, Live Stock ...	0 11 1	110 17 0	110 6 6	1 1 7
Loans, Live Stock ...	—	2,443 19 0	2,443 19 0	—
Quarantine Station ...	—	152 16 6	152 16 6	—
General ...	7 12 6	20,412 11 11	20,407 9 10	2 10 5
Law Charges ...	0 8 4	0 8 4	—	—
Purchase of Bulls ...	58 9 0	233 14 4	175 5 4	—
Seed Distribution Scheme ...	—	2,207 3 4	2,207 3 4	—
Works Services ...	—	646 11 8	668 11 8	22 0 0
TOTAL ...	836 8 7	26,439 4 9	27,295 19 0	20 5 8

Summary of Loan Accounts on 31st March, 1925.

Nature of Loan.	Loans outstanding on 31st March, 1924			Loans issued in 1924/25.			Principal repaid in 1924/25.			Interest received in 1924/25.			Loans outstanding on 31st March, 1925		
	No.	Amount.		No.	Amount.		No.	Amount.		No.	Amount.		No.	Amount.	
		£	s. d.		£	s. d.		£	s. d.		£	s. d.		£	s. d.
For the purchase of stallions ...	15	859	19 11	6	609	19 8		270	10 8		43	2 2	20	1,199	8 11
For the purchase of bulls ...	—	—	—	2	69	6 0		—	—		—	—	2	69	6 0
For the purchase of stallions ...	1	*16	0 0	—	—	—		16	0 0		0	14 4	—	—	—
For the purchase of agricultural implements, etc.	3	*68	14 9	—	—	—		68	14 9		5	0 9	—	—	—
Total	19	944	14 8	8	679	5 8		355	5 5		48	17 3	22	1,268	14 11

*These amounts represent outstanding balances of loans granted by the Department of Agriculture and Technical Instruction to farmers in Northern Ireland, prior to the transfer of Northern Ireland Services.

Repayment instalments on all loans for agricultural purposes are effected to the Loans Repayment Account of the Government of Northern Ireland.

Table showing by Counties the Amounts contributed from Local Rates, and the Amounts contributed by the Ministry for the purposes of Agricultural Schemes under Local Statutory Committees during the year ended 31st March, 1925.

COUNTY.	Rate in the £.	Total Produce of and Contributions from Local Rate.				†CONTRIBUTIONS FROM THE MINISTRY.			
		£	s.	d.	General Grant.	Additional Grant for Agricultural Development.	Agricultural Classes Grants.	Total.	
Antrim	d.				£	£ s. d.	£ s. d.	£ s. d.	
Armagh	1	2,562	8	0	*4,815	629 0 9	55 7 2	5,499 7 11	
Down	1	1,458	0	0	2,341	275 13 0	34 10 4	2,651 3 4	
Fermanagh	1	2,110	14	6	4,006	585 18 3	142 9 6	4,734 7 9	
Londonderry	1	950	0	0	2,201	382 17 3	14 5 4	2,598 2 7	
Tyrone	1	1,219	7	8	2,519	578 15 7	120 10 4	3,218 5 11	
		1,809	4	0	3,588	880 2 9	80 7 1	4,548 9 10	
		10,109	14	2	19,470	3,332 7 7	447 9 9	23,249 17 4	

*This includes a grant-in-aid of £1,000 in respect of Greenmount Agricultural College.

†Sums amounting to £5,731 16s 9d recouped to the County Committees by the Ministry in respect of cost-of-living bonus of whole-time officers are not included.

Table showing Expenditure on Agricultural and Live Stock Schemes by County Committees of Agriculture during the Year ended 31st March, 1925.

County	Itinerant Instruction in Agriculture	Winter Agricultural Classes	Horticulture and Bee-keeping	Poultry-keeping	Butter-making	Live Stock	Subsidies to Shows	Miscellaneous allocations	General Administration	Scholarships	TOTALS
	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d
Antrim	512 4 0	48 13 1	687 11 3	(a) 606 9 1	—	1,584 16 6	325 8 9	(b) 681 13 4	604 5 8	(c) 1,386 8 0	6,437 9 8
Armagh	565 4 2	(d) 160 0 6	644 13 4	555 2 0	10 2 11	619 11 9	168 3 1	(e) 30 0 0	392 2 1	162 11 1	3,307 10 11
Down	737 3 0	87 10 4	679 15 8	(a) 921 16 10	—	2,115 12 0	398 15 7	(f) 95 14 2	624 5 7	467 7 1	6,128 0 3
Fermanagh	505 7 6	5 16 0	300 9 6	(a) 577 9 11	—	756 5 6	75 13 3	(g) 159 2 10	309 17 4	65 11 5	2,755 13 3
L'donderry	494 13 9	58 1 4	309 9 2	479 11 2	253 0 4	936 16 5	111 0 7	(e) 20 0 0	421 6 1	323 0 0	3,406 18 10
Tyrone	951 6 5	103 11 10	345 7 5	537 5 9	13 0 3	1,573 13 2	276 14 0	(e) 65 0 0	676 13 6	354 10 0	4,897 2 4
Total	3,765 18 10	463 13 1	2,967 6 4	3,677 14 9	276 3 6	7,586 15 4	1,355 15 3	1,051 10 4	3,028 10 3	2,759 7 7	26,932 15 3

(a) Includes Buttermaking.
 (b) (1) For Agricultural Overseer ... £210 3 8
 (2) For Seed Potato Scheme ... 272 1 4
 (3) For Cottage Prize Scheme ... 89 8 4
 (4) For Milk Recording Associations... 110 0 0
 (c) Includes £801 8s 0d upkeep of Greenmount Agricultural College.
 (d) Includes £96 13s 4d for lectures in Veterinary Hygiene.
 (e) For Milk Recording Associations.
 (f) (1) For Milk Recording Associations ... 25 0 0
 (2) For Cottage Prize Scheme ... 70 14 2
 (g) (1) For Milk Recording Associations... 57 1 10
 (2) For Cottage Prize Scheme ... 102 1 0

**Table showing Expenditure on Special Development Schemes by
County Committees of Agriculture during the period ended
31st March, 1925.**

County.	Itinerant Instruction in Agriculture	Agricultural Overseers.	Improve- ment of Pastures.	*Improve- ment of Mountain Sheep.	Totals.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Antrim	246 16 10	246 2 2	85 10 4	96 0 3	674 9 7
Armagh	—	236 5 6	39 7 6	—	275 13 0
Down	—	587 6 1	39 14 7	53 2 8	680 3 4
Fermanagh	—	416 3 9	75 19 2	—	492 2 11
Londonderry	—	580 3 1	58 13 10	—	638 16 11
Tyrone	333 14 11	572 17 2	115 13 0	47 11 5	1,069 16 6
Total	580 11 9	2,638 17 9	414 18 5	196 14 4	3,831 2 3

*Net expenditure after deducting receipts from sale of rams.

“ Baby ” Beef Experiment 1924-25.

The experiment was continued on lines very similar to those of last year's test, with the following alterations and additions:—

1. Only two lots of calves instead of three.
2. Calves to be locally bred in all cases.
3. Preliminary period of feeding prior to start of experiment proper during which the selected calves are to be fed fodder, roots and bruised or crushed oats.
4. Experiment proper to start not later than 15th October, 1924.

Experiment.

Lot 1.—Calves fed for sale as stores at from twelve to fifteen months' old.
Lot 2.—Calves fed for sale as beef at from twelve to fifteen months' old.

Conditions.

Each lot should consist of three calves, but where six suitable calves cannot be secured the experiment may proceed with two calves in each lot.

All calves to be as nearly as possible of the same weight and of the same age. The breeding of the calves should be known. They should be locally bred and well reared calves preferably all by the same sire and born during the months of February, March or April provided the ages of the calves for any experiment do not differ by more than six weeks. It is desirable that all the calves in the experiment should be bullocks, but if this is not possible the sexes must be evenly balanced.

Feeding.

All the calves are to be fed similarly until the start of the experiment, which should in all cases be not later than the 15th October, 1924.

Calves selected for the experiment should be separated from the remainder of the calves on the farm about three weeks prior to the commencement of the experiment and all fed alike during that period on the ration to be fed to the store lot after the experiment begins. The calves must be weighed prior to the start of the experiment and divided into two lots as evenly balanced as possible.

It is desirable to have the weights of the calves at the beginning of the preliminary period also and weighing at that time should be done where possible.

Throughout the experimental period each lot is to receive as much hay, or hay and straw, and turnips as the animals can consume. Hay should be used in preference to straw.

The additional feeding will be as follows:—

Lot 1. An allowance up to 1 lb. per head per day of bruised oats.

Lot 2. An allowance up to 6 lb. per head per day of a mixture of concentrates.

Particulars of the mixture of concentrates for Lot 2 will be supplied to Instructors before the end of September.

The concentrated food for Lot 2 should commence with about $1\frac{1}{2}$ lb. per head per day and should be increased according to the manner in which the animals thrive. It must not, however, exceed 6 lb. per head per day. The maximum should be reached about 4 months after the start of the experiment.

A careful record must be kept of the concentrated food consumed by both Lots. It will be found useful for checking purposes if the Instructor has weighed out in separate receptacles the foods required for a definite period for each lot.

All the animals should be given as much water as they will drink. The stores may be allowed a run out on pasture daily, but the beef lot must not be put out after the experiment starts. The weight of each calf must be obtained at the conclusion of the experiment.

Subsidy for experiment—£1 10s per annum with a maximum expenditure of £10, which should include £1 to the attendant.

Scheme of Agricultural Experiments 1924-25.

Before commencing field experiments and demonstrations each year, the Agricultural Instructor should submit to the County Committee and the Ministry his plans for the work, showing the number and variety of the experiments and demonstrations he proposes to conduct, and the estimated cost in detail of the seeds, manures, and accessories required.

When his proposals have been approved by the County Committee and the Ministry, the Instructor should, on behalf of the Committee, order the seeds and manures in the requisite quantities. The Instructor must not, of course, obtain goods for which the Committee are liable for payment, without having previously obtained authorisation from the Committee. He should take every precaution to ensure that the seeds and manures are of the kinds specified in the Scheme, and that the prices charged are not in excess of current market rates. The merchants' accounts should be carefully examined by him, and certified as to their accuracy before they are presented to the County Committee for payment.

In order that as accurate results as possible may be obtained, the Instructor should not arrange for a greater number of experiments than he can thoroughly oversee. The Instructor is required to devote his personal supervision to the selection of land, the laying out of the plots, the sowing of the seeds and manures, and the harvesting and weighing of the produce.

Returns in connection with the experiments of each class on the several crops dealt with should be furnished to the Ministry on the forms supplied for the purpose, immediately after the necessary weighings have been completed on all the plots of any one class from which reliable results can be obtained.

The dates before which the reports dealing with experiments with the different crops must reach the Ministry are as follows:—

Meadow Hay	30th September.
Potatoes	8th November.
Mangels	15th November.
Turnips	21st December.
Grain	31st December.

The Ministry should be duly informed of the failure of any experiment.

The Instructor should submit to the County Committee, as soon as possible after the completion of his experimental work each season, a report on the results obtained during the season, so that the Committee may, after the Report has been reviewed by the Ministry, have it published and circulated among farmers prior to the commencement of the following season's field operations.

No change may be made in any of the experiments as given below, but the Instructor may include such additional plots as local conditions render advisable. *In the variety tests Instructors are required to include all the varieties specified in each list.*

A. Demonstration Plots.

Demonstration plots, which are intended to serve as object lessons to farmers in the cultivation, manuring and seeding of land, etc., should be established in every part of an Instructor's district. The Plots should, as far as possible, be placed on prominent sites near main roads.

The undermentioned demonstrations will be found to be useful generally:—

Application of Phosphates to Pasture.

Application of Liquid Manure to Hay.

Catch Crops.

Spraying of Potatoes.

Spraying of Charlock.

Varieties of different crops.

Liming of land.

Sprouting of Seed Potatoes.

Sowing of Wild White Clover.

Sowing good mixtures of seed especially in seed saving districts.

It should be noted that both seeds and manures may not be supplied for the same experiment or demonstration, except in the case of Phosphates applied to wild white clover plots.

Demonstration plots should not exceed one-quarter statute acre in area.

Experiments and demonstrations should be labelled so that an ordinary observer may be able easily to ascertain what they are intended to show. One label will suffice for each demonstration plot, but in the case of an experiment which includes several plots a larger label stating the general character of the experiment should be erected in addition to the smaller labels giving particulars with respect to each of the plots included in the experiment. The labels should be capable of resisting the weather.

Meetings of farmers should be arranged at experiment or demonstration plots, located at suitable centres, during the summer months, to afford Instructors an opportunity of discussing the plots, varieties, manurial mixtures, methods of cultivation, etc., with farmers in the neighbourhood.

B. Scheme of Field Experiments.

I.—Oat Crop (Variety Test) *White Oats*:

Size of each plot—not less than one-eighth or more than a quarter of a statute acre.

(a) *Varieties suitable for the better class of soils.*

The following varieties to be tested:—

1. Victory

4. King

2. Crown.

5. Any other varieties.

3. Potato.

(b) *Varieties suitable for poorer soils.*

The following varieties to be tested:—

1. Poland.

3. Tyrone Tawny.

2. Potato.

4. Sandy.

5. Any other varieties.

II.—Oat Crop (Charlock Spraying Test)

The object of this experiment is to obtain accurate data regarding the increase in yield in the oat crop when sprayed to destroy charlock.

Size of each plot—not less than one-eighth or more than a quarter of a statute acre.

No. of
Plot.

1. Sprayed at the rate of 60 gallons per statute acre with a 3 per cent. solution Copper Sulphate to which has been added Nitrate of Soda at the rate of 30 lb. per 40 gallons.
2. Unsprayed.

N.B.—The spray should be applied when the Charlock plants are not more than four inches high, i.e., long before they reach the flowering stage.

III.—*Barley Crop* (variety test).

Size of each plot—not less than one-eighth or more than a quarter of a statute acre.

The following varieties to be tested:—

1. Spratt—Archer.
2. Archer x Goldthorpe 4/5/1.
3. Goldthorpe x Spratt 18/1 (optional).
4. Any other varieties.

IV.—*Wheat Crop* (Autumn Variety Test).

Size of each plot—not less than one-eighth or more than a quarter of a statute acre.

The following varieties to be tested:—

- | | |
|-----------------------|---------------------|
| 1. Iron. | 3. Victor (Garton). |
| 2. Squarehead Master. | 4. Yeoman. |

V.—*Wheat Crop* (Manurial Test).

Size of each plot—not less than one-eighth or more than a quarter of a statute acre.

No. of
Plot.

1. Dressed in March with either (1) Nitrate of Soda at the rate of 1 cwt. per statute acre, or (2) Sulphate of Ammonia at the rate of $\frac{3}{4}$ cwt. per statute acre.
2. Dressed in March with Chloride of Ammonia at the rate of 65 lb. per statute acre.
3. No dressing applied.

N.B.—The plots should not be selected until spring at a time when the crops are neither very forward nor unduly backward.

VI.—*Turnip Crop* (Variety Test).

Size of each plot—four drills full length of field.

The following varieties to be tested:—

Swedes.

1. Magnum Bonum (Suttons).
2. Supreme (Hogg and Robertson).
3. Magnificent (Garton).
4. Incomparable Green Top (Garton).
5. Up-to-date (Suttons).
6. Tipperary (Carter).
7. Model (Garton).
8. Any other varieties.

VII.—*Mangel Crop* (Variety Test).

Size of each plot—four drills full length of field.

The following types to be tested:—

- | | |
|-------------------------|-------------------------|
| 1. Yellow Globe. | 4. Long Red. |
| 2. Yellow Intermediate. | 5. Any other varieties. |
| 3. Red Intermediate. | |

VIII.—*Potato Crop* (Variety Test).

Size of each plot—one fortieth of a statute acre.

(a) *Maincrop.*

- | | |
|------------------------|-------------------------|
| 1. Up-to-date. | 5. Kerr's Pink. |
| 2. Tinwald Perfection. | 6. Ben Cruachan. |
| 3. Rhoderick Dhu. | 7. Dunaverney. |
| 4. Arran Victory. | 8. Any other varieties. |

(b) *Mid-season.*

- | | |
|-------------------|-------------------------|
| 1. British Queen. | 4. Edzell Blue. |
| 2. Great Scot. | 5. Any other varieties. |
| 3. Arran Comrade. | |

The varieties in the Mid-season test should be lifted and weighed by the 1st September.

If possible each plot to consist of 3 drills and weights are to be taken from the central drills of each. In no case must less than 2 drills of a variety be planted.

IX. *Rotation Experiment to ascertain the residual effect of the Nitrogen and Organic Matter collected by Wild White Clover.*

At least one experiment should be conducted by every Instructor, and where one has not already been laid down or where the one laid down is not promising, an experiment should be commenced this season. It is suggested that where suitable leas which contain demonstration plots sown with a mixture containing Wild White Clover are being ploughed this year that particulars of the crops should, if possible, be secured from them.

Experiment to start with the sowing of the seeds mixture.

Number and size of plots. The plots to be not less than $\frac{1}{4}$ statute acre, but if possible they should be larger.

A field that is not intended to remain in pasture for more than four years should be selected.

Plot 1. An ordinary seeds mixture containing one pound of wild white clover.

„ 2. The same seed mixture containing one pound ordinary white clover instead of the wild white clover.

The plots should be clearly marked with permanent pegs after the seeds have been sown.

The first year's hay crop is to be weighed. Should the field be reserved for hay the second year the yield on each plot should be determined.

When the field is broken up the crops on at least one-tenth of an acre of each of the two plots are to be weighed throughout the course of the rotation. Samples of the grain and straw from any cereal crop are to be drawn from each plot.

At the commencement of the experiment samples of soil will be taken from each plot for nitrogen determinations. Immediately before the pasture is ploughed for oats, fresh samples will be taken with a view to ascertaining the amount of nitrogen collected. When the rotation has been completed, final samples will be drawn.

Note:—It is desirable that either at the time of sowing the grass seeds or, alternately, after the harvesting of the nurse crop, a dressing equivalent to 5 cwt. per acre of high-grade basic slag should be given to both plots. Under no circumstances should a nitrogenous manure be applied to the hay crops.

It is important that soils of poor or average quality should be selected. Neither very fertile soils nor peaty soils should be chosen, as the object of the experiment is to ascertain the effect of the organic matter and nitrogen collected, it is essential that no nitrogenous fertilisers or farmyard manure should be applied to any crop in the rotation.

X.—*Liming Rotation Experiment.*

Size of each Plot. $\frac{1}{4}$ acre.

No. of Plots. At least four, and where possible five.

Type of Lime. Either ground burnt lime, or ground limestone, according to local sources of supply. Ground limestone should, if possible, be used.

Dressing of Lime. Plot 1—Control.
„ 2— $\frac{1}{4}$ calculated "lime requirement."
„ 3— $\frac{1}{2}$ „ „ „
„ 4— „ „ „
„ 5— $1\frac{1}{4}$ „ „ „

.. *Time of application.* The lime should be applied to the grass immediately before ploughing for oats.

The plots should be carefully marked with permanent pegs at time of application of lime.

The crop yield on all the plots is to be recorded throughout a complete rotation.

Small samples of the grain and straw from all cereal crops on each of the plots will be required.

The artificial manures used during the rotation should, as far as possible, be superphosphate as the source of phosphate, sulphate of ammonia as the source of nitrogen, and muriate of potash as the source of potash. The quantities applied should be sufficient to prevent nitrogen, phosphates and potash becoming limiting factors.

There should be the same crop and variety of crop on all plots. At least one experiment as above should be in progress in each Instructor's district; and if one is not already laid down, arrangements should be made to start one this season.

XI.—*Experiment with Phosphatic Manures on Potatoes (Fineness of Grinding Test).*

Size of plots—One-twentieth of a statute acre provided there are at least four drills in each. Outside drills to be discarded when taking weighings.

Number of Plots—Four.

Treatment Plot 1— $1\frac{1}{2}$ cwt. sulphate of ammonia.
6 cwt. superphosphate (35%).
 $1\frac{1}{2}$ cwt. muriate of potash.

Plot 2— $1\frac{1}{2}$ cwt. sulphate of ammonia.
West Indies mineral phosphate.
(Fineness 100 sieve) equivalent
to 6 cwt. superphosphate (35%).
 $1\frac{1}{2}$ cwt. muriate of potash.

Plot 3— $1\frac{1}{2}$ cwt. sulphate of ammonia.
West Indies mineral phosphate
(Fineness 160 sieve) equivalent
to 6 cwt. superphosphate (35%).
 $1\frac{1}{2}$ cwt. muriate of potash.

Plot 4— $1\frac{1}{2}$ cwt. sulphate of ammonia.
West Indies mineral phosphate
(Fineness 180 sieve) equivalent
to 6 cwt. superphosphate (35%).
 $1\frac{1}{2}$ cwt. muriate of potash.

No farmyard manure may be applied to any of the plots.

XII.—*Turnip Crop. Experiment with Mineral Phosphates.*
(Fineness of Grinding.)

Plots to be duplicated.

Size of each plot—one-twentieth or one-tenth of a statute acre. Not less than four drills may be included, and the two outside drills should be excluded when taking results.

The following kinds and quantities of manures should be applied per statute acre.

Plot 1.— $1\frac{1}{2}$ cwt. Sulphate of Ammonia.
 $4\frac{1}{2}$ cwt. Kainit.
6 cwt. Superphosphate (35%).

Plot 2.— $1\frac{1}{2}$ cwt. Sulphate of Ammonia.
 $4\frac{1}{2}$ cwt. Kainit.
West Indies Mineral Phosphate (Fineness 100 sieve) equivalent to
6 cwt. Superphosphate (35%).

Plot 3.— $1\frac{1}{2}$ cwt. Sulphate of Ammonia.
 $4\frac{1}{2}$ cwt. Kainit.
West Indies Mineral Phosphate (Fineness 160 sieve) equivalent to
6 cwt. Superphosphate (35%).

Plot 4.— $1\frac{1}{2}$ cwt. Sulphate of Ammonia.
 $4\frac{1}{2}$ cwt. Kainit.
West Indies Mineral Phosphate (Fineness 180 sieve) equivalent to
6 cwt. Superphosphate (35%).

No Farmyard manure may be applied.

XIII.—*Manuring of Hay for Seed.*

Size of plots—not less than $\frac{1}{4}$ th statute acre.

The yield of threshed hay and seed to be determined. Samples of seed to be submitted as required by the Ministry. Crops of hay under experiment to be either pure perennial or pure Italian.

The following kinds and quantities of manure to be applied per statute acre:—

Plot 1.—3 cwt. Superphosphate (35%).

Plot 2.—1 cwt. Sulphate of Ammonia.

Plot 3.—3 cwt. Superphosphate (35%).

1 cwt. Sulphate of Ammonia.

Plot 4.—3 cwt. Superphosphate (35%).

$\frac{3}{4}$ cwt. Sulphate of Potash.

Plot 5.—3 cwt. Superphosphate (35%).

1 cwt. Sulphate of Ammonia.

$\frac{3}{4}$ cwt. Sulphate of Potash.

Plot 6.—No manure.

XIV.—Experiment to Compare Different Mixtures of Seeds for Hay and Pasture.

Size of plots—Not less than $\frac{1}{4}$ statute acre.		
Seeds Mixtures—Plot 1.		
	Standard mixture.	
	Perennial Ryegrass	15 lb.
	Italian Ryegrass	7 "
	Meadow Fescue	4 "
	Timothy	3 "
	Cocksfoot	3 "
	Broad Red Clover	4 "
	Alsike Clover	2 "
	Wild White Clover	1 "
		39 lb.
		per statute acre.
Plot 2.		
	Perennial Ryegrass	16 lb.
	Cocksfoot	10 "
	Timothy	4 "
	Late flowering Red Clover	1 "
	Alsike Clover	1 "
	Wild White Clover	1 "
		33 lb.
		per statute acre
Plot 3. Instructor's own mixture.		

Special Series of Experiments with Phosphatic Manures.

1. Rotation Experiment with Phosphatic Manures commenced in 1922 with Turnip Crop.

Size of each plot—not less than one-tenth or more than a quarter of a statute acre.

Reports on grazing are to be furnished, and also returns from oat crop when lea has been ploughed.

2. Hay Crop, 1923 (Rotation experiment with Phosphatic Manures). (Manures applied in 1922).

Size of each plot—a quarter of a statute acre.

Reports on grazing are to be furnished, and also returns from oat crop when lea has been ploughed.

Pig Feeding Experiment 1924-25.

Object—To compare wet and dry feeding.

Experiment—Two lots of pigs, minimum number three in each lot.

Lot 1—Fed in house on mixture of meals given wet.

Lot 2—Fed in house on same mixture of meals as for Lot 1 fed dry from automatic feeder.

If the Instructor can secure suitable additional pigs and accommodation a third lot may be included as follows:—

Lot 3—Fed on pasture in the open on same mixture of meals as for Lot 1 fed dry from automatic feeder.

The mixture of meals to be used is left to the Instructor. Linseed cake, crushed linseed or any other product of flax seed must not be included. If fish meal is included its use must be withdrawn four weeks prior to slaughter of pigs.

If potatoes, roots and milk are used, each lot must receive exactly the same quantity of these foods. For Lot 1 these should be mixed with meals in the ordinary way, but for Lots 2 and 3 they should be given in open troughs.

If sufficient pigs from one litter cannot be secured, the pigs may be selected from two litters of about the same age provided the same number of pigs from both litters are included in each lot. The sexes should be evenly balanced. Where pigs are selected from two litters a preliminary period should precede the start of experiment, during which time all the pigs should be run together. Pigs to be not more than 12 weeks old at start of experiment.

Subsidy—The subsidy payable shall not exceed 10s per pig with an allowance of 10s to the attendant. The maximum subsidy for the experiment shall be £5 in the case of two lots of pigs and £7 10s 0d in the case of three lots.

Note—An exactly similar experiment should follow the termination of the first experiment as outlined above so as to get information regarding the two systems of feeding under both summer and winter conditions.

PIG EXPERIMENT, 1924/25. COUNTY FERMANAGH.

- Objects*— (1) To compare wet and dry feeding.
(2) To compare outdoor and indoor feeding.
(3) To compare pure-bred Ulster and cross-bred pigs.

Experiment—

Three lots of pigs.

4 pigs in each lot, of which two are to be pure-bred.

Large White Ulster Breed and two cross-bred.

Lot 1.

2 pure-bred
2 cross-bred

Fed on wet system from trough in sty.

Lot 2.

2 pure-bred
2 cross-bred

Fed on dry meals from automatic feeder in sty.

Lot 3.

2 pure-bred
2 cross-bred

Fed on dry meals from automatic feeder on pasture in the open.

Pure-bred pigs for all lots to be from same litter } Sexes to be evenly
Cross-bred pigs for all lots to be from same litter } balanced.

Pure-bred and cross-bred pigs to be of about same age.

Preliminary period of two weeks during which all pigs are to be housed together. Divided when not more than 12 weeks old into three lots as evenly balanced as possible as judged by weights.

Feeding—

All three lots to get same mixture of meals.

Lot 1—Meals to be given wet and fed from open trough in sty.

„ 2—Meals fed dry from feeder in sty.

„ 3—Meals fed dry from feeder on pasture in the open.

Pigs to be kept constantly on pasture and shelter of some kind to be provided.

If potatoes, roots and milk are used each lot must receive exactly the same quantity of these foods. For Lot 1 these should be mixed with meals in the ordinary way, but for Lots 2 and 3 they should be given in open troughs.

The mixture of meals to be used is left to the Instructor. Linseed cake, crushed linseed or any other product of flax seed must not be included. If fish meal is included its use must be withdrawn four weeks prior to slaughter of pigs. The quantity of meal mixture fed to Lot 1 will be as much as the pigs will readily clear up, and in Lots 2 and 3 the hopper should be kept filled and the pigs permitted to take what they will.

Subsidy.—The subsidy payable shall not exceed 10s per pig, with an allowance of 10s to the attendant. The maximum subsidy for the experiment shall be £5 in the case of two lots of pigs, and £7 10s in the case of three lots.

Scheme of Horticultural Experiments, 1925.

I. Ovicidal Sprays.

- (a) The official experiments with Fluid A, as carried out in 1924, are to be continued during 1925, the spray being applied to the same trees both years.

Plot 1.—Control. No treatment.

„ 2.—Trees sprayed with a 7½% solution.

„ 3.—Trees sprayed with a 5% solution.

„ 4.—The treatment of this plot is left to the discretion of the Instructor. It may be used to compare the results obtained from such washes as lime and salt, lime sulphur, etc.

- (b) It is proposed to extend this experiment to test the relative values of other sprays of the same nature that are now on the market. If it is not possible to include the extra plots in the same orchard as that in which Experiment A is being conducted an untreated control plot should be reserved in the orchard in which the new tar-distillates are being tested; also that each plot including control should consist of not less than six trees, and that if the trees of an outside row are to be included in the experiment they should be distributed evenly through all the plots. The trees selected should be equally infested with the eggs of either “Apple Sucker” or “Apple Aphis” or of both these pests. All the trees including the controls should preferably be of the same variety, but if this is not possible the same number of trees of each variety represented should be included in each of the plots. As far as possible the trees of each plot should be approximately equal in vigour and size.

In the selection of plots for this experiment preference should be given to orchards adjacent to public roads in order that the effect of the wash can easily be seen by other fruit growers in the district.

This experiment will comprise the following plots:—

Plot 1. Control. No treatment.

„ 2. Trees sprayed with a 5% solution of Fluid A.

„ 3. „ „ „ 5% „ „ „ B.

„ 4. „ „ „ 5% „ „ „ C.

„ 5. „ „ „ 5% „ „ „ D.

„ 6. „ „ „ 5% „ „ „ E.

If plots for experiment B can be arranged for in the same orchard as A, and on trees similar to those in experiment A, plots 1 and 2 in experiment B may be omitted.

The results should be recorded as follows:—

(a) Observation during the period the trees are in flower. The intensity of the infestation should be noted and a count made of the number of bloom trusses, if any, that are infested with “Apple Sucker.” A minimum number of ten trusses should be examined on each tree in each plot.

(b) Observation during the summer for the amount of damage, if any, caused by Aphides.

(c) The total weight of fruit produced and the weight that is free from blemish on each plot.

(d) Damage, if any, caused by the Spray Fluids.

N.B.—1. Do not apply the tar-distillate washes (a) when rain is imminent; (b) during frosty weather; (c) after the bud scales have commenced to move.

2. The wash should be applied evenly over all parts of the tree. To make a 7½% solution add to 9 pints of the concentrate, as purchased, sufficient water to make 15 gallons of wash; to make a 5% solution add to 6 pints of the concentrate sufficient water to make fifteen gallons of wash.

II. *Apple Scab*.—Effect of various spraying mixtures. The official experiment adopted for 1923 is to be continued on the same lines and in the same orchards in 1925. It is left to the discretion of the Instructor to include plots 5, 6, 7, 8 and 9, but, where possible, it is very desirable that they should be included. The ninth plot may be treated with any mixture which the Instructor may consider it desirable to test.

Plot 1. Control. No treatment.

Plot 2. 2% solution Copper Sulphate, to be applied as a spray towards the end of February.

Plot 3. Bordeaux Mixture. $\left. \begin{array}{l} 2\frac{1}{2} \text{ lb Copper Sulphate} \\ 8 \text{ lb. Lime.} \\ 40 \text{ gallons water} \end{array} \right\} \begin{array}{l} \text{To be applied as a spray} \\ \text{within 3 weeks after the} \\ \text{petals have fallen.} \end{array}$

Plot 4. Berger's lime sulphur, $\frac{1}{2}$ gallon (sp. gr. 1.3) to 30 gallons water, to be applied as a spray within 3 weeks after the petals have fallen.

Plot 5. Bordeaux mixture as for Plot 3—to be applied as a spray on two separate occasions (a) as soon as the petals show colour, but before they expand, and (b) within 3 weeks after the petals have fallen.

Plot 6. Bordeaux mixture as for plot 3—to be applied as a spray on three separate occasions, (a) as soon as the petals show colour, but before they expand, (b) immediately after the petals have fallen, and (c) not sooner than two nor later than three weeks after the applications of the second spray.

Plot 7. Mixture for Plot 4 to be applied at the times specified for Bordeaux mixture on Plot 5.

Plot 8. Mixture for Plot 4 to be applied at the times specified for Bordeaux mixture on Plot 6.

Plot 9. The treatment of this plot is left to the discretion of the Instructor. He may utilise it in testing a further spray mixture or in testing the comparative value of farm-yard manure against the spraying treatment.

Each of the plots should comprise six trees, which must be clean and free from lichens. The trees should be of from 10 to 15 years of age, and should be sprayed under similar conditions. Outside rows should not be chosen, and none of the trees should be at the end of a row.

The treatment of the soil on each plot should be similar, i.e., some plots should not be in grass and others cultivated.

The results are to be returned thus:—

- (a) weight of fruit free from scab;
- (b) weight affected by scab, and
- (c) weight blemished otherwise than by scab.

III. *American Gooseberry Mildew*. Effect of various spraying mixtures.

Plot 1. Control—at least six bushes—no treatment.

Plot 2. Ammonium Polysulphide, 1 part in 150 parts of water (6 tablespoonfuls in 3 gallons water). Soft soap at the rate of from 2½ to 3 oz. to 3 gallons water should be dissolved in the water used for making up the spray mixture before the Ammonium Polysulphide is added. This mixture is to be applied as a spray on two separate occasions, viz.,

- (a) immediately after pollination, and
- (b) three weeks later.

Plot 3. 1st spraying—caustic soda (2 lbs. in 10 gallons water), to be applied, just before growth starts in spring; 2nd and 3rd sprayings—washing soda (1 oz. to 1 gallon water) to be applied

- (a) immediately after pollination; and
- (b) three weeks later.

If further bushes are available it is suggested that plots should be included to test the value, if any, of caustic soda alone and washing soda alone. The strengths of the solutions of these materials and the times of application are to be those stated in the case of Plot 3.

Plots 2 and 3 are to consist of at least 12 bushes, all to receive the same cultural treatment until September, 1925. Then half the number of bushes on each plot are to be "tipped" and the tips burned, while those of the other half are to remain untipped.

The variety should, where possible, be "Whinham's Industry," but in no case should any of the varieties known as "Ambers" be used.

Ammonium Polysulphide should be obtained from some of the Horticultural sundries men. The chemical supplied under this name by the chemists is not suitable.

It is suggested that where suitable bushes can be obtained this experiment should be conducted at different centres in each county with the object of demonstrating to growers that American Gooseberry Mildew can be controlled by suitable sprays, and also to give a larger number of plots from which to secure definite results.

The results are to be returned thus:—

- | | |
|---|-----------------|
| 1. Total weight of berries free from mildew | } on each plot. |
| 2. " " " " affected by mildew | |

IV. *Manuring Apple Trees.* (Optional).

Variety—"Bramley's Seedling."

Number of trees in each plot—Not less than six.

Condition of trees—Growing in grass for not less than four years and making little annual growth. Grass removed as hay annually.

Age—Not less than ten years from planting.

Plot 1. No manure or other treatment.

Plot 2. Farmyard manure applied at the rate of 7 cwt. per tree.

Plot 3. 6 lbs. Sulphate of Ammonia per tree applied in two dressings
(a) 3 lb. per tree when the earliest blossom buds show pink and
(b) 3 lbs. per tree immediately after petals have fallen.

Plot 4. 3 lbs. Sulphate of Ammonia per tree applied at the same time as (a) plot 3.

Plot 5. Trees reduced in size by pruning extremes of longest and highest branches.

Plot 6. Grass cut in plot and spread round trees as a mulch in June or July.

In plots 1 to 5 inclusive the grass should be cut at the usual time and removed as hay.

The experiment should be continued with the same trees for at least four consecutive years.

Recording Results:—The weight of fruit removed off each plot to be returned to the Ministry each autumn with remarks on size and grade. Sizing and grading to be in accordance with standards specified in Leaflet No. 6—"The Packing of Apples in Standard Boxes."

BEE EXPERIMENTS, 1925.

Acarine Disease or "Isle of Wight." (Optional.)

Hives—C.D B. or other standard bar-frame hive to be used.

Stocks—At the commencement of both experiments A and B the stocks should be of approximately equal strength.

Experiment A—The 1924 experiments to be continued where stocks are available.

Stock I.—No Treatment. The stock to be worked on the lines usually adopted by the beekeeper.

Stock II.—To be requeened during May with a young Fertile Italian Queen.

Stock III.—Not to be requeened, but to be treated with sulphur smoke during Spring and Autumn. The queen to be of approximately equal vigour with that of Stock I.

If this experiment is undertaken arrangements should be made to obtain the queens from the same source.

Experiment B—The stocks in this experiment should be located so that the Instructor can have them under observation daily. Close attention should be given to the stocks for the first 48 hours after placing the chemicals in the brood nest. If from the appearance of the stock it appears that the quantity of chemical used is excessive a lesser quantity should be used on the next occasion.

Stock I.—Bees affected only slightly with Acarine Disease—No Treatment.

Stock II.—Healthy Stock—To be fumigated with sulphur cartridges as described by Rennie once weekly.

Stock III.—Healthy Stock—To be treated with 40 drops of Ammonium Polysulphide once weekly.

Stock IV.—Healthy Stock—To be treated with from $\frac{1}{8}$ to $\frac{1}{4}$ ounce Naphthalene Flakes, No. 16 Grade, once weekly.

Stock V.—Healthy Stock—To be treated with 40 drops Eucalyptus oil once weekly.

Stock VI.—Healthy Stock—To be treated with 40 drops Essential oil of Peppermint once weekly.

In experiment B Stock I. should be placed so that all the other stocks are about equal distances away from it, and it should be managed on lines that encourage robbing by the other stocks, e.g., wide entrance, food scattered on or near alighting board, etc.

If it is not possible to obtain five stocks apparently free from Acarine Disease the experiment may be undertaken with four such stocks, when the treatment with Essential oil of Peppermint should be omitted.

A diseased stock must be included in every experiment B undertaken.

Recording Results—For both Experiments A and B the results should be recorded for each stock under the following heads.

(a) Approximate weight of honey produced.

(b) Weight of honey removed.

(c) Strength of stock at close of honey flow—

1. Number of frames covered by bees.
2. Area of frames containing eggs and brood.

(d) Number of swarms, dates of swarming, approximate weight of each swarm.

(e) Date when crawling was first observed, if at all.

EGG-LAYING TEST (PULLETS), 1924-25.

Period 16th October, 1924, to 16th September, 1925.

(Conclusion of Test).

72 Fens of 6 Pullets each Competing.

The following table gives the number and value of eggs laid by each pen up to and including 16th September, 1925. It should be noted, however, that these results may be subject to alteration, as a final detailed check is at present in progress.

Section 1. White Wyandottes. (24 pens.)

Order of Merit	No. of Pen	Name of Owner	No. of eggs laid 16th October 16th Sept.	Value of Eggs £ s d	No. of pullets moulting	No. of pullets broody	No. of pullets dead
1	11	Mrs. Jas. Heron, Ardigon House, Killyleagh.	1379	12 11 1 $\frac{1}{4}$		2	
2	5	The Lady Dunleath, Ballywalter.	1322	12 4 3 $\frac{3}{4}$			
3	18	Mrs. Porter Porter, Bell Isle, Lisbellaw.	1336	12 0 4 $\frac{1}{2}$		2	
4	14	Mrs. Loughrin, Mackney, Cookstown.	1258	11 9 4		1	
5	15	Miss McCormick, Brookend House, Stewartstown.	1274	11 7 9 $\frac{1}{2}$		2	
6	16	Mrs. Osborne, The Booten, Comber.	1257	11 3 6 $\frac{1}{4}$	2		
*	19	Mr. S. Steele, Loughside, Ballycarry.	1399	11 2 8 $\frac{1}{2}$		1	
7	24	Mrs. Archer, Belvedere, Donaghadee.	1189	11 2 7		2	
8	4	Mr. L. Donnelly, 23 Church Place, Lurgan.	1209	10 17 4 $\frac{1}{2}$		1	
9	12	Mr. Hurst, Mount Vester, Dunmurry.	1183	10 11 11 $\frac{1}{2}$		4	
10	20	Miss Stevenson, Glen Villa, Derry- trasna, Lurgan.	1125	10 3 11	1		
11	21	Mr. Watson, Mount Nebo, Gilnahirk, Knock.	1068	10 0 8		2	1
12	6	Mr. T. Falloon, J.P., The Beech Lee Poultry Farm, Lurgan.	1070	9 18 5 $\frac{3}{4}$		2	1
13†	23	Mrs. Workman, Carrowdore Castle, Donaghadee.	1111	9 18 5 $\frac{1}{2}$		2	
14	10	Mrs. E. D. Heron, Greenfield, Katesbridge.	1136	9 15 11 $\frac{1}{2}$		2	
15	2	Viscountess Bangor, Downpatrick.	1097	9 11 7 $\frac{1}{4}$		1	
16	17	Mr. S. Patterson, Ballymacbrennan, Lisburn.	1036	9 6 11 $\frac{1}{4}$	1		

Order of Merit	No. of Pen	Name of Owner	No. of eggs laid 16th October 16th Sept.	Value of Eggs £ s d	No. of pullets moul- ting	No. of pullets broody	No. of pul- lets dead
17	15	Mr. A. Jackson, Port Muck, Islandmagee.	931	8 18 4		1	1
18	9	Capt. Heron, Ballytrim Cottage, Killyleagh.	980	8 13 3 $\frac{1}{4}$		1	
19	8	Mr. R. J. G. Grainger, Craigavad.	1013	8 10 4 $\frac{3}{4}$	2		
20	7	Mrs. Gibson, Summerhill, Dunmurry.	962	8 9 0 $\frac{3}{4}$		1	
21	1	Mr. T. Abernethy, Moneyrea, Comber.	983	8 7 3 $\frac{3}{4}$		1	
†	22	Mr. T. H. White, Tandragee.	896	7 15 5	1	3	1
22	3	Mrs. Darley, Trory, Ballinamallard.	900	6 18 1 $\frac{1}{4}$		1	

*The eggs laid by this pen failed to reach the required average weight of 24 ozs. per dozen.

†Purchased by Mrs. Theo. Legate, Ballywilliam, Donaghadee.

‡The eggs laid by this pen failed to reach the required average weight of 24 ozs. per dozen.

Section 2. White Leghorns. (18 pens.)

1	38	Mr. J. P. M'Murray, 7 College Avenue, Bangor.	1403	11 18 9 $\frac{1}{4}$			
2	35	Mrs. I. H. Mitchel, Bank House, Markethill.	1304	11 18 8 $\frac{1}{4}$	2		
3*	43	Mrs. Workman, Carrowdore Castle, Donaghadee.	1307	11 14 13 $\frac{3}{4}$			
4	37	Mr. D. McIntyre, Gas Works House, Dungannon.	1233	11 4 6 $\frac{3}{4}$	2		
5	36	Miss McAuley, Masseerene Poultry Farm, Antrim.	1244	10 13 10 $\frac{3}{4}$	1		
6	34	Mrs. Marshall, Keadybeg, Whitecross.	1144	10 7 2	2		
7	33	Mrs. L'Estrange, The Rectory, Killylea.	1185	10 4 6 $\frac{1}{2}$	1		1
8	39	Mrs. Nedwell, Coolshinney, Magherafelt.	1167	9 18 11 $\frac{3}{4}$	1		
9	40	Mrs. W. B. Russell, Ballyedward, Magheramore.	1222	9 18 9 $\frac{1}{2}$			
10	42	Mr. T. H. White, Tandragee.	1172	9 18 7			
11	41	Mrs. Stewart, Knock.	1124	9 18 2 $\frac{3}{4}$			2
†	27	Mr. J. Cowie, Huntley, Dunmurry.	1156	9 14 3 $\frac{1}{2}$	1		

Order of Merit	No. of Pen	Name of Owner	No of eggs laid 16th October 16th Sept	Value of Eggs £ s d	No. of pullets moulting	No. of pullets broody	No. of pullets dead
12	26	Capt. Close, Drumbanagher, Poyntzpass.	1117	9 11 4 $\frac{1}{4}$			1
13	28	Mr. M. A. Donnelly, Blackwatertown.	1164	9 8 11 $\frac{1}{2}$	1		
14	31	Mrs. Hanna, Hillsborough Road, Lisburn.	1025	8 7 0 $\frac{1}{4}$			1
15	25	Mrs. Briscoe, The Glebe, Loughall.	982	8 6 7 $\frac{1}{2}$	1		
16	29	Mr. T. Gibson, South End Cottage, Cookstown.	948	8 5 3			1
17	32	Mr. Q. Y. Lawson, Urney.	880	7 1 10 $\frac{1}{2}$	1		1

*Purchased by Mrs. Theo. Legate, Ballywilliam, Donaghadee.

+The eggs laid by this pen failed to reach the required average weight of 24 ozs. per dozen.

Section 3. Non-sitters other than White Leghorns (5 pens).

Order of Merit	No of Pen	Name of Owner	No of eggs laid 16th October 16th Sept	Value of eggs £ s d	No of pullets moulting	No of pullets broody	No of pullets dead	Breed
1	47	Miss Morrison, Ballymore Rectory, Tandragee.	1115	9 17 11	3		1	Ancona.
2	46	Mrs. Mayne, Mount Pleasant, Newtownards.	1078	9 16 2	2			Black Leghorn.
3	45	Mr. D. Freeland, Craigavad.	1062	9 10 11			1	"
4	48	Mr. J. G. McNabb, Aughnacloy, Lurgan.	995	8 14 10				Ancona.
5	44	Mr. J. Cowie, Huntley, Dunmurry.	919	7 17 1 $\frac{3}{4}$				Black Leghorn.

Section 4. Heavy breeds other than White Wyandottes (12 pens).

1	49	Mrs. Alexander, Drumragh, Omagh.	1152	10 16 11 $\frac{3}{4}$		3		Light Sussex.
2	55	Mrs. Irwin, Tynan.	1160	9 12 1 $\frac{1}{2}$	1			Rhode Island Red.
3	52	Miss O. F. Clifford, Ardlogher, Kilyleagh.	1110	9 3 7 $\frac{3}{4}$		1		"
4	54	Miss Irwin, Tynan.	979	8 10 8 $\frac{3}{4}$		1		Light Sussex.
5	30	Mr. D. Freeland, Craigavad.	986	8 6 2 $\frac{1}{2}$		2	1	Rhode Island Red.
6	56	Mr. R. King, Ballymena.	922	8 6 0		2		Light Sussex.
7	50	Greenmount Agricultural School, Muckamore.	956	8 4 4 $\frac{3}{4}$		3	1	"

Order of Merit	No. of Pen	Name of Owner	No of eggs laid 16th October 16th Sept.	Value of Eggs £ s d	No. of pullets moulting	No. of pullets broody	No. of pullets dead	Breed
8	51	Mrs. W. J. Campbell, Carrickblackker, Portadown.	927	7 14 10		1		Rhode Island Red.
9	58	Mrs. G. Scott, Annaclare, Armagh.	887	7 4 8½	1	1		"
10	53	Capt. C. Dundee, M.B., Redhall, Ballycarry.	815	6 14 11½		1	1	"
11	57	Mrs. Scott, Castlereagh Road, Belfast.	764	5 19 5½	1	2		Light Sussex.
12	59	Miss Shields, Rockmount, Whitewell.	530	4 14 10		3	3	Rhode Island Red.

Section 5. Any approved breed (confined to holders of Egg Stations)
(13 pens).

1	62	Mrs. Bell, Ballyward, Banbridge.	1275	11 15 3		3		White Wyan- dotte.
2	65	Mrs. Gray, Glenbrook, Finvoy, Ballymoney.	1267	11 12 2½	1			"
*	72	Mrs. M. J. Thompson, Lisnafillan, Gracehill.	1248	10 15 11½		4		"
3	67	Mrs. Mayne, Mount Pleasant, Newtownards.	1053	10 8 10½		2	1	"
4	64	Mrs. M. Ewart, Milltown Rectory, Portadown.	1028	10 4 11		1	1	"
5	66	Miss Mathers, Milltown, Burndennett.	1175	10 4 0½		1		"
6	60	Mrs. M. Alexander, Drumragh, Omagh.	1076	9 15 2		3		White Leghorn.
*	69	Mrs. McFadden, Granshaw, Kirkcubbin.	1133	9 13 1½	1			White Wyan- dotte.
7	70	Miss McSparron, Killunaught, Feeny.	1078	9 7 2½		1		Rhode Island Red.
8	61	Mrs. D. Barnes, Greyabbey.	1030	9 3 7		3		White Wyan dotte.
9	68	Mrs. McClure, Ballytresna, Randalstown.	1105	8 16 10½		1		"
10	63	Mr. S. H. Clarke, Ballymacombs, Bellaghy.	942	8 14 1½	1	1	1	"
11	71	Mr. J. L. Taggart, Montalto, Bushmills.	848	6 18 0½	2	2		Rhode Island Red.

*The eggs laid by this pen failed to reach the required average weight of
24 ozs. per dozen.

EGG-LAYING TEST (DUCKS), 1924-25.**Period 16th October, 1924, to 16th September, 1925.***FINAL RESULTS.***11 Pens of 5 Ducks each Competing.**

The following table gives the number and value of eggs laid by each pen up to and including 16th September, 1925.

Order of Merit	No of Pen	Name and Address of Owner	No of eggs laid 16/10/24 to 16/9/25	Value of eggs laid			No of ducks moulted	Breed
				£	s	d		
1	8	Mr. G. C. Richardson, Castle Irvine, Irvinestown.	866	7	10	11 $\frac{3}{4}$		Khaki Campbell
2	1	Mrs. Bell, Ballyward, Banbridge.	772	7	7	8 $\frac{1}{2}$		"
3	5	Mrs. E. Marshall, Keadybeg, Whitecross.	588	5	2	5 $\frac{1}{4}$		White Runner
4	7	Villa Colony Poultry Farm, Purdysburn, Belfast.	543	4	11	1		Khaki Campbell
5	4	Mrs. T. Gray, Glenbrook, Finvoy, Ballymoney.	464	4	2	5 $\frac{3}{4}$		Fawn & White Runner
6	10	Mr. G. Wadsworth, Kilcorrig House, Lisburn.	452	3	17	5		Khaki Campbell
7	6	Mrs. Mayne, Mount Pleasant, Newtownards.	431	3	16	4	2	Fawn & White Runner.
8	3	Mrs. A. Gibson, Summerhill, Dunmurry.	415	3	9	10 $\frac{1}{4}$		Light Campbell
9	9	Mrs. Stewart, Pedigree Poultry Farm, Knock.	365	3	8	8 $\frac{1}{2}$		Khaki Campbell
10*	11	Mrs. Workman, Carrowdore Castle, Donaghadee.	432	3	4	8	3	White Runner
11	2	Mr. P. Cunningham, Strathroy, Omagh.	247	2	4	11 $\frac{3}{4}$		Khaki Campbell

*Purchased by Mrs. Theo. Legate, Ballywilliam, Donaghadee.

EGG-LAYING TESTS (PULLETS), 1925-26.*RULES.*

1. The Ministry proposes to hold at Stormont, Strandtown, Belfast, the fourth of a series of Egg-Laying Tests for Pullets.

2. The Test will extend over a period of 48 weeks, commencing on 15th October, 1925, and ending on 15th September, 1926.

3. Records will be kept and published of the number, grade and value of all eggs of not less than 1 $\frac{1}{2}$ oz. in weight laid by each pullet, and of the total number, weight and value of such eggs produced by each pen.

4. The names and addresses of all competitors will be published monthly, together with records of the number of eggs laid by their birds.

5. A pen will consist of six pullets hatched during the year 1925, and the birds shall be of one breed and one variety of the breed. All pure breeds are eligible for the test, provided they are the property of, and bred from stock the property of, a resident in Northern Ireland.

6. Not less than 72 pens will be provided.

7. Breeds will be divided into Sections as follows:—

- Section 1. White Wyandottes—22 pens.
- .. 2. White Leghorns—20 pens.
- .. 3. Non-sitting breeds, other than White Leghorns—10 pens.
- .. 4. Sitting Breeds, other than White Wyandottes—10 pens.
- .. 5. Station-holders' Section (any approved breed)—10 pens.

If the number of entries in any Section is less than the number of pens provided for that Section the number of pens in one or more of the other Sections may be correspondingly increased (subject to Rule 8).

8. A breeder may make more than one entry, but not in one Section. If the entries received exceed the number of pens provided the choice of pens will be made so as to have as many breeders represented as is possible (subject to Rule 7). Subject to this condition the final selection of the entries for any Section will be made by ballot. If balloting is adopted the owners of pens balloted out will, according to the order of ballot, be given the option of filling any vacancy in the Section caused by the enforcement of Rule 16.

9. A separate house and run will be provided for each pen of pullets, and trap nests in the proportion of one for every two birds.

10. All eggs laid will be sold, and the amount realised applied towards defraying the expenses of the Test.

11. In the event of the death of a bird through accident or illness no replacement will be allowed, but the number and value of the eggs laid by such bird will be credited to the pen.

12. The entry fee in respect of each pen will be £1, to be paid at the time of entry. This sum will cover return carriage on birds at the close of the Test.

13. The entry fee will be refunded to owners who are unsuccessful in having their birds accepted or whose birds are returned for any reason before the expiration of the Test, provided, in the latter case, that the birds have not qualified for the award of a prize or certificate. Entry fees will not be refunded to owners who fail to send pens which have been accepted.

14. Entries, to be made on forms supplied by the Ministry of Agriculture, will close on the 12th August, 1925. As soon after that date as possible rings will be sent to competitors whose birds have been accepted.

15. Birds sent by rail must arrive, carriage paid, at Belfast Stations not before Wednesday, 7th October, or after Thursday, 8th October, 1925.

If owners so desire the pullets may be sent direct to Stormont by motor or other conveyance.

16. On arrival at the place of test the birds will be carefully examined, and any pens judged to be in any way unsuitable will be returned. If at any time a bird develops a disease which, in the opinion of the Ministry, would be likely to endanger the health of the birds in the other pens, the pen containing the affected bird will be returned to the owner.

THIS RULE WILL BE STRICTLY ENFORCED.

17. While every care will be taken, the Ministry will not be responsible for loss or injury to birds in any way in connection with the Test.

18. Prizes will be awarded on the basis of market value of eggs laid, the pen producing eggs of highest market value to receive the awards; *but no pen, the eggs of which fail to average 24 oz. per dozen during the period of the Test, shall be eligible for a prize or other award.*

19. No individual bird producing more than 50 second grade eggs shall be eligible for a special medal or certificate.

20. For the purposes of this Test during the first 28 days of the Test a first grade egg shall weigh not less than $1\frac{1}{4}$ oz., during the second 28 days not less than $1\frac{15}{16}$ oz., and during the remainder of the Test not less than 2 oz. The minimum weight for a second grade egg at every stage of the Test shall be $\frac{1}{2}$ oz. less than the minimum then in force for a first grade egg. Any eggs below second grade will be included separately in the published records of the Test, but will not be counted as of any value in making the awards.

21. The following prizes will be awarded in each of the Sections 1 and 2, provided there are not less than 20 entries accepted for the Section:—

First Prize	...	...	...	...	£10
Second	„	...	...	...	6
Third	„	...	...	...	5
Fourth	„	...	...	...	4
Fifth	„	...	...	...	3

Three prizes, as follows, will be awarded in each of the Sections 3, 4 and 5, provided there are not less than 10 entries in the Section:—

First Prize	...	...	...	...	£10
Second	„	...	...	...	6
Third	„	...	...	...	3

If there are less than 10, but not less than 6 entries in the Section, two prizes, as follows, will be awarded:—

First Prize	...	...	...	...	£10
Second „	...	...	...	...	6

No prize will be awarded in respect of any pen producing less than 960 eggs during the period of the Test.

In the event of a pen being sold during the period of the Test any awards due in respect of such pen shall be made to the original entrant.

22. A special prize of a silver cup will be awarded in respect of the pen laying eggs of highest market value during the period of the Test (subject to Rule 18).

23. A silver medal will be awarded in respect of the individual pullet laying eggs of highest market value during the period of the Test (subject to Rule 19).

24. A bronze medal will be awarded in respect of the individual pullet laying eggs of the highest market value in each Section during the period of the Test (subject to Rule 19).

25. A special prize of £2—to be known as the Winter Egg Prize—will be awarded in respect of the pen laying eggs of highest market value during the first four periods (16 weeks) of the Test (subject to Rule 18).

26. A first class certificate will be awarded in respect of every pen of pullets laying not less than 1,200 eggs during the period of the Test (subject to Rule 18).

A second class certificate will be awarded in respect of every pen laying less than 1,200, but not less than 960 eggs during the period of the Test (subject to Rule 18).

27. A special certificate of merit will be awarded in respect of every pullet laying not less than 220 eggs during the period of the Test (subject to Rule 19).

28. Competitors and visitors will be allowed to visit the Test on Wednesdays and Saturdays from 2 p.m. to 4 p.m., and at other times by appointment with the Manager of the Laying Test, Stormont, Strandtown, Belfast.

29. Entry forms and all other information can be had on application to the Ministry of Agriculture, Northern Ireland, Wellington Place, Belfast, whose decision in all matters relating to the Test and these Rules shall be final.

Note:—Postage on letters addressed to the Manager of the Laying Test at Stormont, Strandtown, Belfast, must be prepaid.

In addition to the prizes awarded by the Ministry, the following Challenge Cups have been offered for competition:—

(1) A Silver Rose-Bowl, known as the “John Waters Perpetual Memorial Challenge Trophy,” offered for competition by the Irish Fanciers’ Association. The trophy is confined to members of the Irish Fanciers’ Association competing in the Ministry’s Tests, and the decision regarding the award rests with the Association.

(2) A Challenge Cup, offered for competition by the Council of the Scientific Poultry Breeders’ Association, to be awarded to the owner of the pen of pure-bred birds laying eggs of highest market value during the winter period (i.e., from commencement of test to end of sixteenth week) in the Ministry’s Tests—the cup to become the absolute property of the owner who secures it *three* years in succession.

(3) A Perpetual Challenge Cup, presented by the “Farmers’ Gazette,” for the best laying pen in any official test in Ireland (North or South).

A replica of the cup will be presented each year to the winner. The basis of the award will be the number (not value) of eggs laid and the 2 oz. standard, i.e., average weight of eggs to be not less than 2 oz. each, will be observed.

May, 1925.

GOVERNMENT OF NORTHERN IRELAND,
 MINISTRY OF AGRICULTURE,
 WELLINGTON PLACE, BELFAST.
 19th November, 1924.

COW-TESTING ASSOCIATIONS.

Circular No. 185.

A.4795/23.

Sir,

During the past season the Ministry has devoted special attention to the promotion of cow-testing associations with the object of improving the milking properties of dairy herds.

Milk recording enables the dairy farmer to obtain accurate information as to the production of milk and butter-fat of each cow in his herd, and reveals which cows are worth keeping, and which should be disposed of at the first opportunity.

The increase in the interest which is being taken in this matter shows that progressive farmers are realising its importance, but although success in the formation of cow-testing associations has been attained in some districts there are still many localities where the advantages of milk recording are not yet fully appreciated. Accordingly, the Ministry is anxious that every possible effort should be made to impress upon farmers the importance of improving their herds and to induce them to join cow-testing associations or to establish new associations in their district, and with this object in view the Ministry invites the co-operation of your Committee, and trusts that they will direct their instructors in agriculture and butter-making to continue to take every opportunity to explain the scheme to farmers likely to be interested in cow-testing, and to recommend at all times the formation of associations.

Copies of a poster referring to milk recording are being forwarded to you under separate cover, and it will be esteemed a favour if you will be good enough to have them displayed in prominent public places.

I have to add that the Scheme for 1925 has not yet been finally settled, but it is probable that it will be practically identical with that in operation in the present year.

I am, Sir,

Your obedient servant,

JAMES S. GORDON,

Secretary.

To the Secretary of each County Committee of Agriculture,

GOVERNMENT OF NORTHERN IRELAND, MINISTRY OF
AGRICULTURE.

FARMERS!

You should have no bad cows in your herd. You can identify your good and bad cows only by keeping records of the milk and butter-fat yield of each cow.

These records are easy to keep if you join a Cow-testing Association.

If there is no such Association in your district you should help your neighbours to form one.

The Ministry of Agriculture will supply all particulars, and will make a Grant to the Funds of the Association.

IF YOU KEEP MILK RECORDS YOU WILL KEEP NO BAD COWS.

COW-TESTING PAYS!

GOVERNMENT OF NORTHERN IRELAND,
 MINISTRY OF AGRICULTURE,
 WELLINGTON PLACE, BELFAST.
 16th January, 1925.

No. A.2957/24.

Sir,

I have to inform you that the Ministry has recently considered the question of the inspection for registration of non-pedigree cows which have been tested in recognised Milk-Recording Associations, and is of the opinion that it would be to the advantage of the members concerned if inspections were carried out *twice* each year instead of once as has been the practice hitherto. Accordingly arrangements will be made this year to carry out a second inspection in the case of cows which do not qualify in time for the usual inspection at the beginning of the year. The second inspection will probably be carried out in the month of July. Further information in the matter will, however, be sent to you in due course.

I am, Sir,

Your obedient servant,

JAMES S. GORDON,

Secretary.

The Supervisor of each Milk Recording Association.

GOVERNMENT OF NORTHERN IRELAND,
 MINISTRY OF AGRICULTURE,
 WELLINGTON PLACE, BELFAST.
 27th January, 1925.

No. A.2416/24.

Sir,

I have to inform you that the Ministry has recently reviewed the condition in Scheme No. 20 which stipulates that in order to be eligible for registration a cow must produce a calf within 14 months from the date of calving immediately preceding the milking period for which records have been kept. After careful consideration it has decided that a cow which calves between 14 and 16 months from the previous date of calving will be regarded as eligible for registration if it gives a calculated yield of not less than 10,000 lb. of milk and 350 lb. of butter-fat, provided that the calculated average percentage of butter-fat does not fall below 3. In cases of this nature, however, the milk yield will, for entry in the Ministry's Register, be subject to a deduction of 2,000 lb. and the butter-fat yield to a deduction of 70 lb. Particulars of the yields submitted by the owners of such cows for entry in Show Catalogues must, of course, be those actually entered in the Ministry's Advanced Register.

I have to request that you will be good enough to bring this matter to the notice of the members of your Association.

I am, Sir,

Your obedient servant,

JAMES S. GORDON,

Secretary.

The Supervisor of each Milk Recording Association,

GOVERNMENT OF NORTHERN IRELAND,

MINISTRY OF AGRICULTURE,

WELLINGTON PLACE, BELFAST.

February, 1925.

No. A.2416/24.

Sir,

I have to inform you that the Ministry has recently reviewed the condition in Scheme No. 20 (a), which stipulates that in order to be eligible for registration a cow must produce a calf within fourteen months from the date of calving immediately preceding the milking period for which records have been kept. After careful consideration of every aspect of the matter the Ministry has decided that a cow which calves between fourteen and sixteen months from the previous date of calving will be regarded as eligible for registration if it gives a calculated yield of milk and butter-fat not less than the respective amount shown in the first two columns of the accompanying table (which represent an increase of 25% on the appropriate standards required for entry in the Ministry's Advanced Register), and provided that the calculated average percentage of butter-fat does not fall below 3. It should be noted, however, that in cases of this nature the milk and butter-fat yields will, for the purposes of entry in the Ministry's Register, be subject to the deductions shown in the third and fourth columns.

I have to add that, as the entry of subsequent milk yields in the Register is also conditional on compliance with the regulation as to calving within the prescribed period, the above-mentioned Rule will be applicable in the case of the entry in the Register of the subsequent yield of any cow that calves between fourteen and sixteen months from the date of calving prior to the commencement of the milking period.

I am, Sir,

Your obedient servant,

JAMES S. GORDON,

Secretary.

To the owners of pure-bred cows of all breeds under test.

Table showing the minimum yields which cows of the various breeds must give to qualify for registration in the event of their calving between 14 and 16 months from the previous date of calving, and also the deductions to be made from the actual yields for the purpose of entry in the Register.

Breed.	Minimum Yield.		Deductions to be made from actual yields for purpose of entry in Register.		Net adjusted yield for purpose of entry in Register.	
	Milk. lb.	Butter- fat. lb.	Milk. lb.	Butter- fat. lb.	Milk. lb.	Butter- fat. lb.
Shorthorn	10,000	350	2,000	70	8,000	280
Ayrshire	"	"	"	"	"	"
Red Poll	"	"	"	"	"	"
British Friesian	12,500	437.5	2,500	87.5	10,000	350
Kerry	8,750	306.25	1,750	61.25	7,000	245
Jersey	"	"	"	"	"	"

NOTE:—Owners when submitting particulars of the yields of their cows for entry in Show Catalogues must furnish the figures entered in the Ministry's Advanced Registers.

MINISTRY OF AGRICULTURE, NORTHERN IRELAND.

Loans for the Purchase of Bulls.

1. Applications for loans for the purchase of Bulls should be made—on the prescribed form—direct to the Ministry at least three weeks before the date of the approved show or sale at which the applicant proposes to purchase the bull.

2. An application for a loan for the purchase of a bull will not be considered if coming from a locality in which, in the opinion of the Ministry, there is already a sufficient number of premium bulls for the purpose of their scheme. A loan will not be granted save for the purchase of a yearling or two-year-old bull passed by the Ministry as suitable for a premium. The bull must be of a breed approved by the County Committee and the Ministry. The Ministry reserves the right to refuse any application for a loan without assigning any reason for such refusal.

3. The purchase price of the Bull must be approved by the Ministry.

4. The person applying for a loan under this scheme—hereinafter referred to as "the applicant"—must purchase through the Ministry, who cannot undertake to consider applications for loans in respect of animals purchased without their knowledge, at shows, sales, or from private individuals.

5. Before taking possession of the Bull the applicant will be required to pay to the Ministry's representative—(1) one-third of the approved purchase price, (2) the stamp duty, and (3) the charge for insurance of the Bull against death only within twelve months (see Clause 9). Further, he must sign a form of undertaking to have the necessary form of guarantee for repayment duly signed and completed without delay.

6. As soon thereafter as possible, the applicant and two approved solvent sureties shall sign a form of guarantee to repay to the Ministry the amount advanced by them in two equal annual instalments, payable on the 1st day of October in each year, the first instalment to be payable on the 1st day of October in the year following that in which the Bull was purchased, together with interest at the rate of 5 per cent. on the outstanding balance.

7. In the case of an association the person in whose charge the Bull is to be placed must, with two other approved members of the association in their capacity of private individuals, guarantee repayment of the loan.

8. The Bull shall not be sold or otherwise disposed of without the consent of the Ministry having been previously obtained in writing, until all instalments of principal and interest are paid off in accordance with Clause 6. In the event of the applicant, contrary to the provisions of this clause, selling or otherwise disposing of the Bull he shall pay to the Ministry as and for liquidated damages the sum of £10 without prejudice to the Ministry's right to recover with interest the unpaid instalment or instalments of the price of the Bull.

9. The applicant must insure the Bull with the Ministry against death only within the first twelve months for the full amount of the purchase price. The fee for such insurance shall be 5 per cent. on the full amount of the purchase price, and shall be paid to the Ministry.

10. The Ministry will insure the Bull with an insurance company for twelve months only from the date of payment of the insurance fee by the applicant. In the event of the death of the Bull before the expiration of the twelve months in question any sum received from the insurance company will be credited to the applicant's loan account. If such sum is more than sufficient to cover the amount of the loan with interest accrued the surplus will be paid to the applicant.

11. The applicant will be required to observe the following conditions:—

- (i) He shall, without delay, give notice in writing or by telegram to the Ministry in the event of the Bull (a) getting ill or lame, (b) meeting with any accident or injury, (c) becoming useless for breeding purposes, or (d) dying.
- (ii) He shall take all reasonable precautions to prevent the Bull from coming into contact with any animal suffering from disease.
- (iii) He shall provide proper accommodation for the Bull and care it in a proper manner to the satisfaction of the Ministry.
- (iv) He shall procure at his own expense a syringe and disinfecting materials and use same for the washing of his Bull after each service in accordance with the instructions given in the Ministry's leaflet on contagious abortion in cows.
- (v) He shall procure at his own expense the services of a Veterinary Surgeon when necessary.

- (vi) In the case of the death of the Bull he must procure at his own expense and forward to the Ministry a certificate from a Veterinary Surgeon or such other evidence as to the cause or fact of death as the Ministry may require.

12. The granting of a loan does not imply that a premium will be awarded in respect of the Bull.

Should the Bull be awarded a premium the person in whose favour the loan is being granted must conform to the regulations of the Ministry's scheme for the improvement of the breeds of cattle, or any modifications therein made, with the approval of the Ministry, by the County Committee.

13. The Ministry shall have the right:—

(a) to inspect the Bull at any time;

(b) to apply the tuberculin test, at their own expense, to any Bull purchased under this scheme.

14. The decision of the Ministry in all matters relating to loans under this scheme shall be final.

Forms of application for loans under this scheme may be obtained from the Secretary, Ministry of Agriculture, Northern Ireland, Wellington Place, Belfast.

GOVERNMENT OF NORTHERN IRELAND.

MINISTRY OF AGRICULTURE.

(On behalf of the Ministry of Finance).

Agricultural Machinery and Implement Loans.

Scheme of Loans for purchase of Agricultural Machinery and Implements.

NOTICE TO APPLICANTS.

The Ministry of Agriculture has been authorised by the Ministry of Finance to consider a limited number of applications for loans under the following regulations, which should be read carefully by intending borrowers.

1. The persons qualified to borrow are rated occupiers of land who are wholly or mainly dependent for their livelihood on farming and who are owners in fee, holders of fee farm grants, tenant purchasers or vested tenants under the Land Purchase Acts, leaseholders, judicial or present tenants.

2. Loans may be made for the purchase of machinery and implements of approved design, including:—

(a) Tillage Implements;

(b) Haymaking Machinery;

(c) Harvesting Machinery;

(d) Dairy Machinery;

(e) Horse Spraying Machines;

(f) Threshers and Agricultural Machinery of any other type approved by the Ministry.

NOTE.—No loan will be granted under this scheme to a person who might reasonably be expected to pay cash. Loans will not be granted for the purchase of second-hand machinery.

3. (a) No loan under this scheme will be granted for a sum exceeding three-quarters of the net cost of the machinery or implements concerned.

(b) No loan under this scheme will be granted for a less sum than £10, or, save in exceptional cases, for a greater sum than £300. In other words a loan would not be granted for the purchase of implements costing less than £13 6s 8d or, save in exceptional circumstances, for machinery costing more than £400.

4. Loans will be repayable to the Ministry of Agriculture within three years unless in exceptional cases, where the period of repayment may be extended to five years. Loans will be repaid by equal yearly instalments of the principal advanced together with interest at the rate of 5 per cent. per annum on the balance of the loan outstanding at each gauge day.

Where a loan under this scheme is sanctioned between 1st January and 30th April, inclusive, in any year, the first instalment will be payable by the borrower on 1st November in that year. When a loan is sanctioned between 1st May and 31st December, inclusive, in any year, the first instalment will be payable by the borrower on the 1st November in the year next following that in which the loan was sanctioned. In all cases *interest* to date will be payable on the 1st November next following sanction of the loan. For the purposes of this clause the date of sanction will be the date on which the Ministry orders the machinery or otherwise intimates that the loan has been provisionally approved.

The borrower may, with the approval of the Ministry of Agriculture, accelerate the repayment by increasing the amount of the yearly instalments to such figure as will repay the loan in a less period than that fixed, and he may also, with the approval of the Ministry of Agriculture, pay off at any time the unpaid balance of the loan.

5. Repayment of the loan and of the interest thereon will be secured by a joint and several bond or promissory note in favour of the Ministry of Finance, to be entered into by the borrower and by not less than two solvent sureties to be approved by the Ministry of Agriculture.

6. Applications must be made to the Ministry of Agriculture on the prescribed form which may be obtained from that Ministry. Each application must be accompanied by a deposit of one quarter of the purchase price or cost of the machinery or implements and by a payment to cover the stamp duty on the promissory note or bond (amount of stamp duty payable is shown on back of application form). Written quotations from the vendor of the machinery or implements must be lodged with the application.

7. (a) Payment for the approved machinery or implements will be made direct to the vendor by the Ministry as soon as the Ministry has been satisfied that delivery of the approved articles in good order and condition has been effected.

(b) The Ministry will require to be satisfied that the borrower's rent, interest or annuity or any rent charge due to the Ministry of Finance by the borrower has been paid to the latest gale day.

8. (a) All facilities shall be given by the applicant to the officers of the Ministry of Agriculture or other authorised persons who may visit the farm for the purpose of inquiring into the application.

(b) During the period that the loans are outstanding the machinery or implements shall be maintained by the borrower in good order and repair to the satisfaction of the Ministry, and shall not be sold or otherwise disposed of without the consent in writing of the Ministry. Further, if required, the borrower shall keep the implements or machinery adequately insured against fire at his own expense. Where insurance is required it shall be effected with a recognised insurance company, and the applicant shall produce the policy and premium receipts when required by the Ministry.

(c) The Ministry of Agriculture during the period that the loan is outstanding shall have the right at all reasonable times to inspect the machinery or implements.

9. The Ministry will not be responsible in any way in the event of a machine or implement purchased under this scheme failing to work or failing to work satisfactorily.

10. The Ministry reserves the right to refuse any application for a loan without assigning any reason for its refusal.

11. In all matters relating to loans under this scheme and to the regulations of the scheme the decision of the Ministry shall be final and conclusive.

NOTE.—*Applicants are warned that the Ministry accepts no responsibility for payment for machinery or implements purchased in anticipation of the approval of the Ministry.*

MINISTRY OF AGRICULTURE, NORTHERN IRELAND,
WELLINGTON PLACE, BELFAST.

May, 1925.

D.I.P. No. 12.

STATUTORY RULES AND ORDERS OF NORTHERN IRELAND.

1925, No. 15.

The Foreign Seed Potatoes (Northern Ireland) Order, 1925, dated February 19th, 1925.

The Ministry of Agriculture for Northern Ireland by virtue and in exercise of the powers vested in it under the Destructive Insects and Pests Acts, 1877 and 1907, and of every other power enabling it in that behalf orders, and it is hereby ordered as follows:—

Application of the Order.

1. This Order shall apply to Northern Ireland.

Definitions.

2. In this Order—

“The Ministry” means the Ministry of Agriculture for Northern Ireland.

“Inspector” means Inspector of the Ministry of Agriculture for Northern Ireland.

“Authorised” means authorised by the Ministry of Agriculture for Northern Ireland.

“Premises” means any land or building.

“Prescribed” means prescribed by the Ministry of Agriculture for Northern Ireland.

Restrictions on Sale or Planting of Potatoes Imported from Abroad.

3. Except under the authority of, and subject to the conditions, if any, imposed by a licence granted by the Ministry or an Inspector or authorised officer, no person shall sell or offer for sale for planting, or plant or cause to permit to be planted any potatoes which have been grown in any place outside Scotland, England and Wales, Ireland and the Channel Islands.

Powers of Entry.

4. An Inspector or any authorised officer upon production if so required, of his appointment or authority, may, for the purpose of enforcing this Order or detecting any violation of the provisions thereof, enter any premises or any railway station, or any place where potatoes are kept or loaded or unloaded and examine any potatoes therein or any potatoes in any railway truck or waggon.

Production of Licences.

5. Any person required by this Order to obtain a licence shall on demand of the Ministry or of an Inspector or of any authorised officer produce the same for inspection.

6. Any person who is or has been in charge of or in possession of seed potatoes suspected by the Ministry or by an Inspector or by any authorised officer of being for sale or having been sold or of being for planting or having been planted in contravention of this Order shall, on demand as aforesaid give all such information in his possession as may be required by the Ministry or by an Inspector or an authorised officer.

Disposal of Potatoes Sold or Planted in Contravention of Article 3.

7. If any potatoes are sold or exposed for sale or planted in contravention of this Order, the Ministry, or an Inspector or any authorised officer, may by the service of a notice on the person in possession of these potatoes prohibit the exposure for sale, the sale or the planting, use, or removal of the potatoes except in accordance with such conditions as may be prescribed in the Notice.

Licences.

8.—(1) The Ministry for any reason that may appear to it sufficient, may refuse to grant a licence under this Order and may revoke any licence issued by it under this Order.

(2) Any licence under this Order obtained by means of a false statement or misrepresentation shall be void.

(3) Any alteration or erasure made in a licence issued under this Order shall render it void.

Offences.

9. Every person who—

- (1) sells or exposes for sale for planting or plants or causes or permits to be planted any potatoes in contravention of this Order; or
- (2) fails to do any act which by this Order, or by any licence or notice issued under this Order he is required to do; or

- (3) wilfully obstructs or impedes an Inspector or any authorised officer in the course of his duties under this Order; or
- (4) refuses to give or gives falsely information as required by Article 6 of this Order

shall be guilty of an offence and shall be liable on conviction to a penalty of ten pounds for each such offence.

Execution of the Order.

10. For the purposes of this Order a Notice shall be deemed to be served on a person if it is delivered to him personally or left for him at his last-known place of abode, or at his office or place of business, or sent through the post in a letter addressed to him at either of such addresses, and a notice or other document purporting to be signed by an Inspector or any authorised officer shall be *prima facie* evidence that it was signed by such Inspector or such authorised officer, as the case may be, and duly authorised.

Commencement of the Order.

11. This Order shall come into operation on the 19th day of February, 1925.

Short Title.

12. This Order may be cited as the Foreign Seed Potatoes (Northern Ireland) Order, 1925.

IN WITNESS whereof the Official Seal of the Ministry of Agriculture for Northern Ireland is hereunto affixed this nineteenth day of February, nineteen hundred and twenty-five.

L.S.

JAMES S. GORDON,
Secretary.

THE COLORADO BEETLE (NORTHERN IRELAND) ORDER OF 1925.

(Dated 25th February, 1925).
(D.I.P. 13).

The Ministry of Agriculture for Northern Ireland by virtue and in exercise of the powers vested in it under the Destructive Insects and Pests Acts, 1877 and 1907, and of every other power enabling it in that behalf, orders and it is hereby ordered as follows:—

Prohibition of Importation of Potatoes.

1. For the prevention of the introduction of the Colorado Beetle the landing in Northern Ireland of any potatoes grown in the Dominion of Canada is hereby prohibited.

Commencement.

2. This Order shall come into operation on the twenty-fifth day of February, nineteen hundred and twenty-five.

Short Title.

This Order may be cited as the Colorado Beetle (Northern Ireland) Order of 1925.

In Witness whereof the Official Seal of the Ministry of Agriculture for Northern Ireland is hereunto affixed this twenty-fifth day of February, Nineteen Hundred and Twenty-five.

L.S.

JAMES S. GORDON,
Secretary.

THE COLORADO BEETLE (NORTHERN IRELAND) ORDER OF 1924.

(Dated 31st December, 1924).
(D.I.P. 10).

The Ministry of Agriculture for Northern Ireland by virtue and in exercise of the powers vested in it under the Destructive Insects and Pests Acts, 1877 and 1907, and of every other power enabling it in that behalf, orders, and it is hereby ordered as follows:—

Prohibition of Importation of Potatoes.

1. For the prevention of the introduction of the Colorado Beetle the landing in Northern Ireland of any potatoes grown in the United States of America is hereby prohibited.

Commencement.

2. This Order shall take immediate effect provided that this Order shall not be deemed to prevent the landing of potatoes shipped from the United States of America before the date of this Order.

Short Title.

This Order may be cited as the COLORADO BEETLE (NORTHERN IRELAND) ORDER OF 1924.

In witness whereof the Official Seal of the Ministry of Agriculture for Northern Ireland is hereunto affixed this Thirty-first day of December, Nineteen Hundred and Twenty-four..

L.S.

JAMES S. GORDON, Secretary.

D.I.P. No. 11.

ORDER OF THE MINISTRY OF AGRICULTURE FOR NORTHERN IRELAND.

(Dated 13th January, 1925).

Black Scab in Potatoes (Northern Ireland) No. 1 Order, 1925.

The Ministry of Agriculture for Northern Ireland, by virtue and in exercise of the powers vested in it under the Destructive Insects and Pests Acts, 1877 and 1907 (40 and 41 Vic., ch. 68, and 7 Edw. 7, ch. 4), and of every other power enabling it in that behalf, orders, and it is hereby ordered as follows:—

Restriction on Movement of Potatoes out of District Scheduled by this Order.

1. (a) Potatoes shall not be moved out of the district mentioned in the first schedule to this Order (hereinafter referred to as the scheduled district), otherwise than in accordance with the conditions of a licence issued by an Inspector or authorised Officer of the said Ministry authorising such movement.

(b) No person shall send or attempt to send by railway from any of the railway stations named in the second schedule to this Order (hereinafter referred to as the scheduled railway stations), any potatoes otherwise than under and subject to the conditions of a licence, issued by an Inspector or authorised Officer of the said Ministry, authorising the sending of the potatoes by railway from one of the scheduled railway stations.

The foregoing provisions shall not apply to potatoes grown outside the scheduled district which are in the course of transit by railway from railway stations other than the scheduled railway stations, and which are not loaded or unloaded at any place within the scheduled district.

(c) Potatoes shall not be loaded on any railway truck or railway waggon at any of the scheduled railway stations, or at any place within the scheduled district, unless the person causing, directing, or permitting the potatoes to be so loaded shall have obtained a licence under this Order authorising such loading.

Restriction on Planting, Digging, and Moving Potatoes within Prohibited Areas.

2. Within the areas described in the third schedule to this Order (hereinafter referred to as the prohibited areas) potatoes shall not be planted, dug or otherwise raised out of the ground or moved from any field, plot, pit, shed, out-house or other place on or used in connection with any farm, garden, cottage, plot, or agricultural holding otherwise than under and in accordance with the conditions of a licence authorising the planting, digging or raising out of the ground, or movement of the said potatoes.

Restriction on Growing and Planting Potatoes within Prohibited Areas or Scheduled District.

3. (1) Potatoes other than varieties approved by the Ministry shall not be grown, or supplied or used for planting within the prohibited areas or the scheduled district.

A list of the varieties approved by the Ministry may be obtained from the Secretary, Ministry of Agriculture for Northern Ireland, Wellington Place, Belfast.

(2) Potatoes grown within the scheduled district shall not be supplied or used for planting in Ireland elsewhere than in that district.

Disposal of Potatoes Planted or Growing in Contravention of the Order.

4. If an inspector or any authorised officer finds planted or growing on any land within the scheduled district potatoes which are not in the opinion of such officer of an approved variety, or if he has reason to believe that potatoes planted on any land have been so planted in contravention of this Order or in contravention of the conditions inserted in a licence thereunder, he may serve a Notice on the occupier of the land requiring him to dig or otherwise raise out of the ground the said potatoes, and to dispose of the same in such manner and within such period of time as may be prescribed in the Notice by the inspector or authorised officer.

Destruction of "Ground" Potatoes.

5. The occupier of any land within the scheduled district which is not cropped with potatoes for the time being, but which having been so cropped at a previous period contains potato tubers which were not removed from the ground when the crop was raised, shall prevent the growth of the said tubers by pulling or digging up the potato stalks as they appear above ground.

Disposal of Potatoes Moved in Contravention of the Order.

6. If any potatoes are loaded or moved in contravention of this Order, the Ministry or any inspector or other authorised person may destroy, or cause to be destroyed, in such manner as the Ministry or the inspector or the authorised person, as the case may be, thinks fit, the aforesaid potatoes and any packages in which the aforesaid potatoes are or have been contained, or may remove or cause to be removed any of the aforesaid potatoes and packages to such place and in such manner as the Ministry or any inspector or other authorised person may think fit, and may serve a Notice on the consignee of, or on the person in charge of, or on the person in possession of, any of the aforesaid potatoes and packages, directing the aforesaid consignee or person on whom the Notice is served to destroy within such time and in such manner as may be specified in such Notice the aforesaid potatoes and packages, or to remove them within such time and to such place as may be specified in such Notice.

Prohibition of Use as Manure of Certain Substances within Scheduled District

7. Within the scheduled district it shall not be lawful to supply or to use as manure, or to spread on the land, or to put into or upon any manure heap, either alone or mixed with other material, any cleanings or any sweepings of potato houses or of potato stores or of potato pits.

Production of Licences and Giving of Names and Addresses.

8. (1) Any person in charge of, or in possession of potatoes which are being loaded, moved, supplied, used, planted, dug or otherwise raised out of the ground where, under this Order, a licence is necessary, shall, on demand of a Justice of the Peace, or of a constable, or of an inspector, or of any authorised officer, produce and show him the licence, and shall allow it to be read, and a copy of, or extract from, it to be taken by the person to whom it is produced.

(2) Any person in charge of or in possession of potatoes suspected by a Justice of the Peace, or by a constable, or by an inspector, or by any authorised officer, of being or having been loaded, moved, supplied, used, planted, dug or otherwise raised out of the ground, in contravention of this Order, shall, on demand, as aforesaid, give his name and address and all the information in his possession as to the persons in whose charge or possession the potatoes have been and as to the place where the potatoes were grown or loaded.

(3) Every person sending or attempting to send by railway any potatoes from any of the scheduled railway stations shall, on demand of a Justice, or of a constable, or of an inspector, or of any officer or servant of the railway company by whom the potatoes are to be conveyed, or of any authorised person, produce and show him the licence authorising the sending of the potatoes, and shall allow it to be read, and a copy of, or extract from, it to be taken by the person to whom it is produced.

Special Licences.

9. Notwithstanding anything in this Order contained, potatoes may be planted, moved, supplied, used or dealt with in any manner specified in any special licence granted under this Order.

Powers of Entry and Inspection.

10. Any justice, constable, inspector, or any authorised officer, upon production, if so required, of his appointment or authority, may, for the purpose of enforcing this Order or of detecting any violation of the provisions thereof, examine the contents of any package or of any conveyance suspected by him to contain potatoes, and may take samples of any potatoes therein, and may for the aforesaid purpose enter any premises.

Licences.

11. (1) Licences under this Order may be granted by the Ministry or by any inspector or by any authorised officer.

2. Every licence issued under this Order shall be delivered up to the Ministry in the manner prescribed on said licence as soon as the purpose for which it was issued has been carried out or the time for which it is valid has lapsed.

(3) Any erasure or alteration made in a licence shall render it invalid.

(4) A licence under this Order obtained by means of any false statement or misrepresentation shall be invalid.

Offences and Penalties.

12. (1) If any person

(a) moves or attempts to move any potatoes, or causes, or directs or permits the same to be moved, in contravention of this Order, or in contravention of the conditions inserted in any licence thereunder; or

(b) loads any potatoes on any railway truck or waggon, or causes, directs or permits the same to be so loaded, in contravention of this Order, or in contravention of the conditions inserted in any licence thereunder; or

(c) sends or attempts to send any potatoes by railway from any of the scheduled railway stations in contravention of this Order, or in contravention of the conditions inserted in any licence thereunder; or

(d) plants any potatoes or digs or raises any potatoes out of the ground, or causes, directs or permits the same to be planted, dug or raised in contravention of this Order or in contravention of the conditions inserted in any licence thereunder; or

(e) refuses or neglects to comply with any direction contained in a Notice served on him under the provisions of this Order; or

(f) purchases, takes delivery or permits delivery to be taken of any potatoes grown or moved in contravention of this Order; or

(g) moves, causes, directs or permits to be moved any potatoes grown in contravention of this Order; or

(h) refuses or neglects to prevent in the manner prescribed in Article 4 or Article 5 of this Order the growth of potatoes in contravention of this Order, or in contravention of the conditions inserted in any licence thereunder; or

(i) supplies or uses as manure, or puts into or upon any manure heap, or spreads on any land, any of the substances mentioned in Article 7 of this Order, or causes, directs or permits the same to be supplied, or used as aforesaid in contravention of this Order, or in contravention of the conditions inserted in any licence thereunder; or

(j) obtains or attempts to obtain a licence under this Order by means of any false statement or misrepresentation; or

(k) refuses or neglects to produce and show any licence or refuses to allow it to be read and a copy of, or extract from, it to be taken as required by this Order when called upon to do so by any of the persons set out in Article 8 of this Order; or

(l) refuses or neglects to give his true name and address or gives a false name or address to any of the persons set out in Article 8 of this Order; or

(m) refuses or neglects to give to any of the persons set out in Article 8 of this Order or to the Ministry when required to do so the information required by said Article; or

(n) obstructs or impedes any inspector or any authorised officer in discharge of his duty under this Order; or

(o) refuses or neglects to deliver up any licence in contravention of Article 11 of this Order; or

(p) is guilty of any other act or default (not hereinbefore specified in this Article) in contravention of the provisions of this Order; or

(q) attempts to do anything by this Order declared to be an offence, he shall be guilty of an offence, and shall be liable on conviction to a penalty of ten pounds for each such offence.

(2) Any railway company or officer or servant thereof who causes, directs or permits any potatoes to be sent by railway from any of the scheduled railway stations in contravention of this Order, or in contravention of the conditions inserted in any licence thereunder, shall be guilty of an offence, and shall be liable on conviction to a penalty of ten pounds for each such offence.

Execution of the Order.

13. For the purposes of this Order a Notice shall be deemed to be served on a person if it is delivered to him personally or left for him at his last-known place of abode, or at his office or place of business, or sent through the post in a letter addressed to him at either of such addresses, and a notice or other document purporting to be signed by an inspector or any authorised officer shall be *prima facie* evidence that it was signed by such inspector or such authorised officer, as the case may be, and duly authorised.

Definitions.

14. In this Order—

“The Ministry” means the Ministry of Agriculture for Northern Ireland.

“Inspector” means an Inspector of the Ministry.

“Authorised” means authorised by the Ministry.

“Premises” means land, or a building or buildings, or land with a building or buildings thereon.

“Occupier” means any person using land for the purpose of or in connection with growing potatoes thereon, whether he has an estate in said lands or not.

“Prescribed” means prescribed by the Ministry.

“Approved” means approved for the time being by the Ministry for planting within the scheduled district and prohibited areas on account of immunity from disease or for any reason appearing to the Ministry sufficient.

References to potatoes as planted or growing shall include the plants at all stages of maturity.

Commencement.

15. This Order shall come into operation on the thirteenth day of January, Nineteen Hundred and Twenty-five.

Short Title.

16. This Order may be cited as the Black Scab in Potatoes (Northern Ireland) No. 1 Order, 1925.

Revocation of Previous Orders.

17. The Order described in the fourth schedule to this Order is hereby revoked as from the thirteenth day of January, Nineteen Hundred and Twenty-five, provided that such revocation shall not—

(i) affect the previous operation of that Order, or anything duly done or suffered thereunder; or

(ii) affect any right, privilege, obligation, or liability acquired, accrued, or incurred thereunder; or

(iii) affect any penalty incurred in respect of any offence committed against that Order; or

(iv) affect any investigation, legal proceeding, or remedy in respect of any such right, privilege, obligation, liability, or penalty as aforesaid; and any such investigation, legal proceeding, or remedy may be instituted, continued or enforced, and any such penalty may be imposed, as if this Order had not been made.

In witness whereof the Official Seal of the Ministry of Agriculture for Northern Ireland is hereunto affixed, this thirteenth day of January, Nineteen Hundred and Twenty-five.

JAMES S. GORDON,
Secretary.

FIRST SCHEDULE.

Scheduled District.

A District comprising—

The Townlands of Cloghog, Dunman, Killybearn and Tamlaghtmore, in the Barony of Loughinsholin, in the Administrative County of Londonderry; the townlands of Ballymaguire, Claggan, Derrygonigan, Doorless, Drumbulgan, Duffess, Edernagh, Glebe, Liscasy, Lisnaball, Tievenagh, Tullyhurken, Tullyraw, Tullyveagh and Tullyweery, in the Barony of Dungannon Upper in the Administrative County of Tyrone.

SECOND SCHEDULE.

Scheduled Railway Stations.

The railway stations at Cookstown, in the Administrative County of Tyrone, of the Great Northern (Ireland) and the London, Midland and Scottish (Northern Counties Committee) Railway Companies.

THIRD SCHEDULE.

Prohibited Areas.

Any farm, garden, cottage plot or agricultural holding on any portion of which the disease of potatoes known as Black Scab, Wart or Warty Disease, Cauliflower Disease, Potato Canker or Potato Rosette (and caused by the fungus known as *Chrysophlyctis endobiotica* (Schilb) or *Synchytrium endobioticum* (Perc.)) exists or has at any time existed.

FOURTH SCHEDULE.

Order Revoked.

The Black Scab in Potatoes (Northern Ireland) No. 1 Order, 1924.

D.I.P. No. 9.

ORDER OF THE MINISTRY OF AGRICULTURE, NORTHERN IRELAND.

Dated 6th October, 1924.

Black Scab in Potatoes (Northern Ireland) No. 1 Order, 1924.

The Ministry of Agriculture for Northern Ireland, by virtue and in exercise of the powers vested in it under the Destructive Insects and Pests Acts, 1877 and 1907 (40 and 41 Vic., ch. 68, and 7 Edw. 7, ch. 4), and of every other power enabling it in that behalf, orders, and it is hereby ordered as follows:—

Restriction on Movement of Potatoes out of District Scheduled by this Order.

1. (a) Potatoes shall not be moved out of the district mentioned in the schedule to this Order, otherwise than in accordance with the conditions of a licence issued by an Inspector or authorised Officer of the said Ministry authorising such movement.

(b) No person shall send or attempt to send by railway from any of the railway stations named in the schedule to this Order (hereinafter referred to as the scheduled railway stations) any potatoes otherwise than under and subject to the conditions of a licence, issued by an Inspector or authorised Officer of the said Ministry authorising the sending of the potatoes by railway from one of the scheduled railway stations.

Disposal of Potatoes Moved in Contravention of the Order.

2. If any potatoes are moved in contravention of this Order, the Ministry or any Inspector or other authorised person may destroy or cause to be destroyed in such manner as the Ministry or the Inspector or the authorised person, as the case may be, thinks fit, the aforesaid potatoes and any packages in which the aforesaid potatoes are or have been contained, or may remove or cause to be removed any of the aforesaid potatoes and packages to such place and in such manner as the Ministry or any Inspector or other authorised person may think fit, and may serve a Notice on the consignee of, or on the person in charge of, or on the person in possession of, any of the aforesaid potatoes and packages, directing the aforesaid consignee or person on whom the Notice is served to destroy within such time and in such manner as may be specified in the aforesaid Notice the aforesaid potatoes and packages, or to remove them within such time and to such place as may be specified in the aforesaid Notice.

Production of Licences and Giving of Names and Addresses.

3. (1) Any person in charge or in possession of potatoes which are being moved, where under this Order a licence is necessary, shall, on demand of a Justice or of a Constable or of an Inspector or of any authorised Officer, produce and show him the licence, and shall allow it to be read, and a copy of, or extract from, it to be taken by the person by whom it is produced.

(2) Any person in charge or in possession of potatoes, suspected by a Justice or by a Constable or by an Inspector or by any authorised Officer, of being or having been moved in contravention of this Order shall, on demand, as aforesaid, give his name and address and all the information in his possession as to the persons in whose charge or possession the potatoes have been and as to the place where the potatoes were grown or loaded.

(3) Every person sending or attempting to send by railway any potatoes from any of the scheduled railway stations shall on demand of a Justice, or of a Constable, or of an Inspector, or of any officer or servant of the railway company by whom the potatoes are to be conveyed, or of any authorised person, produce and show him the licence authorising the sending of the potatoes and shall allow it to be read and a copy of, or extract from, it to be taken by the person to whom it is produced.

Special Licences.

4. Notwithstanding anything in this Order contained, potatoes may be moved or dealt with in any manner specified in any special licence granted under this Order.

Powers of Entry and Inspection.

5. Any Justice, Constable, Inspector or any authorised Officer upon production, if so required of his appointment or authority, may, for the purpose of enforcing this Order or of detecting any violation of the provisions thereof, examine the contents of any package or of any conveyance suspected by him to contain potatoes, and may take samples of any potatoes therein, and may for the aforesaid purpose enter any premises.

Licences.

6. (1) Licences under this Order may be granted by the Ministry or by any Inspector or by any authorised Officer.

(2) Every licence issued under this Order shall be delivered up to the Ministry in the manner prescribed on said licence as soon as the purpose for which it was issued has been carried out or the time for which it is valid has lapsed.

(3) Any erasure or alteration made in a licence shall render it invalid.

(4) A licence under this Order obtained by means of any false statement or misrepresentation shall be invalid.

Offences and Penalties.

7. Any person who—

(a) moves, or attempts to move, any potatoes, or causes or directs, or permits the same to be moved in contravention of this Order or in contravention of the conditions inserted in any licence thereunder; or

(b) refuses or neglects to comply with any direction contained in a Notice served on him under the provisions of this Order; or

(c) purchases, takes delivery, or permits delivery to be taken of any potatoes moved in contravention of this Order; or

(d) obtains or attempts to obtain a licence under this Order by means of any false statement or misrepresentation; or

(e) refuses or neglects to produce and show any licence or refuses to allow it to be read and a copy of, or extract from, it to be taken as required by this Order, when called upon to do so by any of the persons set out in Article 3 of this Order; or

(f) refuses or neglects to give his true name and address, or gives a false name or address to any of the persons set out in Article 3 of this Order; or

(g) refuses or neglects to give to any of the persons set out in Article 3 of this Order or to the Ministry when required to do so the information required by said Article; or

(h) obstructs or impedes any Inspector or any authorised officer in the discharge of his duty under this Order; or

(i) sends or attempts to send any potatoes by railway from any of the scheduled railway stations in contravention of this Order or in contravention of the conditions inserted in any licence thereunder; or

(j) any railway company or officer or servant thereof who causes, directs or permits any potatoes to be sent by railway from any of the scheduled railway stations in contravention of this Order, or in contravention of the conditions inserted in any licence thereunder; or any person who

(k) refuses or neglects to deliver up any licence in contravention of Article 6 of this Order; or

(l) is guilty of any other act or default (not hereinbefore specified in this Article) in contravention of the provisions of this Order, shall be guilty of an offence, and shall be liable on conviction to a penalty of ten pounds for each such offence.

8. The foregoing provisions shall not apply to potatoes which are in the course of transit by railway from railway stations other than the scheduled railway stations and which are not unloaded at any of the scheduled railway stations.

Execution of the Order.

9. For the purposes of this Order a Notice shall be deemed to be served on a person if it is delivered to him personally or left for him at his last-known place of abode, or at his office or place of business, or sent through the post in a letter addressed to him at either of such addresses; and a Notice or other document purporting to be signed by an Inspector or any authorised officer shall be *prima facie* evidence that it was signed by such Inspector or such authorised officer, as the case may be, and duly authorised.

Definitions.

10. In this Order—

“The Ministry” means the Ministry of Agriculture, Northern Ireland.

“Inspector” means an Inspector of the Ministry.

“Authorised” means authorised by the Ministry.

“Premises” means land, or a building or buildings, or land with a building or buildings thereon.

“Prescribed” means prescribed by the Ministry.

Commencement.

11. This Order shall come into operation on the 7th day of October, Nineteen Hundred and Twenty-four.

Short Title.

12. This Order may be cited as the Black Scab in Potatoes (Northern Ireland) No. 1 Order, 1924.

In Witness whereof the Ministry of Agriculture, Northern Ireland, has hereunto set its official seal this 6th day of October, Nineteen Hundred and Twenty-four.

L.S.

JAMES S. GORDON,
Secretary.

THE SCHEDULE.

A District comprising—

The townlands of Cloghog, Dunman, Killybearn and Tamlaghtmore, in the barony of Loughinsholin in the Administrative County of Londonderry; the townlands of Ballymaguire, Claggan, Derrygonigan, Doorless, Drumbulgan, Duffess, Edernagh, Liscausy, Lisnahall, Tievenagh, Tullyhurken, Tullyraw, Tullyveagh and Tullyweery, in the barony of Dungannon Upper in the Administrative County of Tyrone, and the railway stations at Cookstown in the Administrative County of Tyrone of the Great Northern (Ireland) and the London, Midland and Scottish (Northern Counties Committee) Railway Companies.

GOVERNMENT OF NORTHERN IRELAND. MINISTRY OF AGRICULTURE

The Scutch Mills Act (Northern Ireland), 1923.

Circular No. 182.

October, 1924.

Sir,

I am desired by the Minister of Agriculture again to direct your attention to the chief provisions of the above-mentioned Act.

Section 1 provides that it shall not be lawful for any person, being the owner or having control of a scutchmill:—

- (a) to demand or accept, or offer to accept, as payment or part payment of charges for scutching, any of the by-products of the process of flax scutching, or
- (b) to purchase or attempt to purchase any of the by-products of the process of flax scutching before that process shall have been carried out.

The Section further lays down that it shall be the duty of every person, being the owner or having control of a scutch mill:—

- (a) to supply such suitable weighing appliances as may be approved by or on behalf of this Ministry for weighing the products or by-products of flax scutching;
- (b) to keep a record of the scutching operations in the Form A set out at end hereof, or in a form to the like effect, and to permit that record to be inspected, and extracts therefrom to be taken, at all reasonable times, by an officer of, or person duly authorised in writing by, this Ministry;
- (c) to furnish, at the time of, or prior to the delivery of, every lot of scutched flax, to the owner thereof or his authorised representative, a statement in writing in the Form B set out at end hereof, or in a form to the like effect;

N.B.—It is understood that supplies of forms suitable for the use of Scutch Mill Owners in connection with the provisions referred to at (b) and (c) above may be obtained in book form from Messrs. "The Coleraine Chronicle," Abbey Street, Coleraine.

- (d) to exhibit, in a prominent place on the premises of the mill, a statement showing whether or not he has insured against fire, while in the mill or on the mill premises, all flax and tow from time to time in the mill or on the mill premises, including the flax and tow of his customers.

It is further specified that by-products of the process of flax scutching shall not be purchased or disposed of otherwise than by weight, and any contract, bargain, sale or dealing relating to such by-products shall, unless it complies with this provision, be null and void.

It should be mentioned that by-products are defined in the Act as including tow and any fibrous material removed by hand from the flax, either through the process of scutching or during subsequent dressing at a scutch mill.

Persons convicted for offences against any of the foregoing provisions will be liable to a fine of £10 for each offence.

Section 2 of the Act empowers any officer of the Ministry, or other person duly authorised in writing by the Ministry, to enter any scutch mill or premises used in connection therewith and any premises which he has reasonable cause to believe to be a scutch mill. The penalty for obstructing an officer or other person duly authorised in this connection is £20.

The Ministry wishes to emphasise the need for careful compliance with the provisions of the Act.

I am, Sir,

Your obedient servant,

JAMES S. GORDON,

Secretary.

FORM A.

Date of Receipt of Flax by Mill Owner	Name and Address of Owner of Flax	Results of Scutching—Avoirdupois Weights.				Date on which Statement of Results was furnished to Owner of Flax	
		Scutch- ed Flax	Tow				Pluck- ings (if any)
			Fine	Rough	Re- Scutch- ed		

FORM B.

I certify that the consignment of Flax received by me from..... of on the day of in the year has been scutched at my Scutch Mill at with the following results:—

Avoirdupois Weight.

Scutched Flax

(a) fine

(b) rough

(c) re-scutched

Tow

Pluckings (if any)

Signature of mill owner

or his authorised representative

Date.....

GOVERNMENT OF NORTHERN IRELAND. MINISTRY OF AGRICULTURE
THE SCUTCH MILLS ACT (NORTHERN IRELAND), 1923.

Advice to Farmers Regarding the Disposal of Tow.

Circular No. 188.

The attention of the Ministry has been directed to the possibility that in some instances farmers are not aware of the provisions of the above-mentioned Act, and that, therefore, they are not, in the disposal of their tow securing the protection which the Act was intended to afford. The attention of farmers is, accordingly, directed to the following provisions of the Act:—

Section I. provides that it shall not be lawful for any person, being the owner or having control of a scutch mill:—

- (a) to demand or accept, or offer to accept, as payment or part payment of charges for scutching, any of the by-products of the process of flax scutching, or
- (b) to purchase or attempt to purchase any of the by-products of the process of flax scutching before that process has been carried out.

The Section also lays down that it shall be the duty of every person, being the owner or having control of a scutch mill:—

- (c) to furnish, at the time of, or prior to the delivery of, every lot of scutched flax, to the owner thereof or his authorised representative, a statement in writing in the Form B. set out in the Act, or in a form to the like effect.

N.B.—In this form the weight of scutched flax and of rough and fine tow or of re-scutched tow is required to be set forth,

It is further prescribed in this Section that "by-products of the process of flax scutching shall not be purchased or disposed of otherwise than by weight, and any contract, bargain, sale or dealing relating to such by-products shall, unless it complies with this provision, be null and void."

"By-products" are defined in the Act as including "tow and any fibrous material removed by hand from the flax, either during the process of scutching or during subsequent dressing at a scutch mill."

Persons convicted for offences against any of the foregoing provisions will be liable to a fine of £10 for each offence.

These provisions emphasise the following points:—

- (1) that the farmer is the absolute owner of the tow resulting from the scutching of his flax;
- (2) that millowners cannot claim their customers' tow either as a perquisite, or as a payment or part payment of charges for scutching;
- (3) that a farmer has the power, if he so desires, of removing the tow from the mill when his flax is scutched, and of disposing of it in any way;
- (4) that a millowner must, immediately following the scutching of the flax, give his customer a written statement showing the weight of his scutched flax, and of his rough and fine tow or his re-scutched tow. There are no exceptions to this obligation even in the cases where the millowner stores the rough tow for scutching it at the end of the season;
- (5) that a farmer is in a position to demand the full market value for his tow, irrespective of whether the tow is sold to the millowner or some other person.

The Act also requires the exhibition in a scutch mill of a statement showing whether or not the flax and tow of customers is insured against fire risks while in the mill, or on the mill premises.

Under the practice, which had become general prior to the War, whereby millowners retained their customers' tow as payment or part payment for scutching, the more wasteful the scutching the more tow was produced, and, therefore, the greater was the millowner's remuneration. If economic methods of scutching are to be encouraged it is imperative that millowners' remuneration should not be dependent on the production of tow. The Ministry would, therefore, appeal to farmers in their own interest to do their part in insisting that the provisions of the Scutch Mills Act are strictly complied with.

Farmers who are in any doubt as to any point arising in connection with the operation of the Act should apply for information to the Ministry at the address below.

25 WELLINGTON PLACE,
BELFAST.

December, 1924.

GOVERNMENT OF NORTHERN IRELAND,
MINISTRY OF AGRICULTURE,
WELLINGTON PLACE,
BELFAST.

September, 1925.

No. A.4852/23.

POTATOES IMPORTATION (IRELAND) ORDER, 1920.

Sir,

As the season is approaching for the importation of potatoes I have again to direct your attention to the following points relating to the importation of potatoes from Great Britain into Northern Ireland which are designed to protect the potato trade of the latter country.

- (1) Every consignment of such potatoes must be accompanied by a declaration in the prescribed form which must bear the official stamp of the Ministry. In the absence of such declaration it is unlawful to land or to attempt to land potatoes in Northern Ireland. A specimen copy of

this form, bearing the official stamp of the Ministry, is enclosed for your information, and under no circumstances should a consignment be accepted if this stamp is not affixed to the form.

In the case, however, of "new" potatoes (i.e., those landed on or before the 15th July in the year in which they have been raised) no such declaration is required, as the Ministry does not apprehend any danger of the spread of disease from this source.

- (2) In the event of any potatoes being landed in contravention of the Order, it is unlawful to move, load, unload, or to dispose or take delivery of them unless the specific authority of the Ministry has been obtained beforehand.
- (3) If, during transit a consignment is transferred from one carrying company to another, the latter company should see that the necessary declaration is received and forwarded with the potatoes.
- (4) As soon as the potatoes are delivered to the consignee in Northern Ireland the declaration must be forwarded by him forthwith to the Ministry.
- (5) In addition to the declaration above referred to the consignee must previously have obtained a licence from the Ministry authorising the landing of the potatoes in Northern Ireland. This licence must be returned to the Ministry at the same time as the declaration.

The Ministry will be obliged if, with a view to ensuring as far as possible, compliance with the Order, you will be good enough to bring the contents of this circular to the notice of the Agents and Officials of your company.

The Ministry greatly appreciates the help which it has received in the past in this connection from Carrying Companies.

I am, Sir,

Your obedient servant,

JAMES S. GORDON,

Secretary.

To the Secretary of the Railway or Shipping Company
named in the Address.

GOVERNMENT OF NORTHERN IRELAND.
MINISTRY OF AGRICULTURE.

The Irish Potatoes Importation (Scotland) Order, 1925.

Potato Exporters are informed that the Board of Agriculture for Scotland have issued the above-mentioned Order governing the importation of potatoes into Scotland from Ireland.

The Order, which came into force on the 1st September, provides that except under the conditions of a licence granted by the Scottish Board potatoes grown in Northern Ireland shall not be brought into Scotland unless accompanied by a certificate from this Ministry to the effect that the land on which the potatoes were grown is not situated in a district scheduled by the Ministry on account of Black Scab, and that so far as the Ministry is aware Black Scab has not occurred on the land nor within one mile thereof.

The certificate must be produced to the Customs Officer at the port of entry on the landing of the potatoes.

Persons desiring to send potatoes from Northern Ireland to Scotland should communicate with the Secretary, Ministry of Agriculture, Northern Ireland, Wellington Place, Belfast, giving particulars as to the nature of the proposed consignment, the place where the potatoes were grown, the port from which they are to be sent, and the port in Scotland.

September, 1925.

STATUTORY RULES AND ORDERS OF NORTHERN IRELAND.
1925. No. 73.

LIVE STOCK BREEDING ACT (NORTHERN IRELAND), 1922.
Live Stock Breeding (Northern Ireland) Rules, 1925.

DATED FIFTEENTH DAY OF JUNE, 1925.

The Ministry of Agriculture by virtue and in exercise of the power for this purpose vested in it by the Live Stock Breeding Act (Northern Ireland), 1922, and of every other power in that behalf enabling it, hereby makes the Rules following, that is to say:—

I. SHORT TITLE.

1. These Rules may be cited as the Live Stock Breeding (Northern Ireland) Rules, 1925.

II. DEFINITIONS.

2. In these Rules unless the context shall require a different construction:—
- (1) The expression "Act" shall mean the Live Stock Breeding Act (Northern Ireland), 1922.
 - (2) The expression "the Ministry" shall mean the Ministry of Agriculture, Northern Ireland.
 - (3) The expression "owner" shall have the same meaning as in the Act.
 - (4) Words in the singular shall include the plural and words in the plural shall include the singular.
 - (5) The expression "bull" shall mean any uncastrated male of the bovine species of the prescribed age.
 - (6) The expression "writing" shall include print and writing or print produced by any mechanical or chemical process.
 - (7) The expression "certified" means certified by the Registrar of Licences or other duly authorised officer of the Ministry.

III. PRESCRIBED AGE OF BULLS.

3. For the purposes of the Act and these Rules bulls born in the months of January and February in any year shall be deemed to be of the prescribed age on the 30th September in that year; bulls born in March, April, May, June, July and August in any year shall be deemed to be of the prescribed age on the 31st March in the year next following the date of birth; bulls born in September, October, November or December shall be deemed to be of the prescribed age on the 30th September in the year next following date of birth. Provided that all bulls born on or before the 28th February, 1925, shall be deemed to have attained the prescribed age on the 1st January, 1924.

IV. APPLICATION FOR LICENCE.

4. An application for a licence to keep a bull shall be made in the form or to the effects stated at (a) in the Schedule to these Rules and shall be lodged with the Ministry not later than the 1st day of February in any year in the case of bulls born in March, April, May, June, July and August of the preceding year, and not later than the 1st day of August in any year in the case of bulls born in the months of January and February of that year, or in the months of September, October, November and December of the preceding year.

V. CONDITIONS AS TO INSPECTION AND EXAMINATION.

5. The Ministry shall notify in such manner as it thinks fit the names of the places and dates at which bulls will be inspected and examined for licences and the owners shall provide all reasonable facilities for the inspection and examination of their bulls at the said places provided that a bull that has previously been inspected for any other purpose on behalf of the Ministry may, with the consent of the Ministry, be exempted from the inspection and examination prescribed by this Rule.

VI. NOTICES AND SERVICES THEREOF.

6.—(1) Any notice required or authorised by these Rules shall be in writing.

(2) Any notice required or authorised by these Rules to be served shall be deemed to be sufficiently served if it is sent by post addressed to the person to be served at his last known place of abode or business and service shall be deemed to be made at the time at which the notice would in the ordinary course of post be delivered.

VII. FORM OF LICENCE.

7. A licence to keep a bull shall be in the form or to the effect stated at (b) in the Schedule to these Rules.

VIII. FEE FOR LICENCE AND CERTIFIED COPY THEREOF.

8. The fee payable for a licence to keep a bull shall be five shillings, and one certified copy of the licence may be obtained by the owner of the bull without further charge.

IX. PERMIT TO KEEP AN UNLICENSED BULL FOR FATTENING.

9. The owner of a bull intended to be fattened off for slaughter shall make application for such a permit in the form or to the effect stated at (c) in the Schedule to these Rules, and shall, if required, present such bull for inspection at such place and at such time as may be specified in any notice issued by the Ministry.

X. FEE FOR PERMIT.

10. The fee payable for a permit to keep an unlicensed bull to be fattened off for slaughter shall be one shilling.

XI. MARKING OF BULLS.

11. Where any Inspecting Officer of the Ministry for that purpose duly authorised in writing by the Ministry decides to mark a bull which is regarded as up to licensing standard the mark shall consist of a right hand or such other mark as may be registered by the Ministry and shall be tattooed on the right ear or other appropriate place. The said mark may be used in conjunction with a letter or number or both.

Where any such duly authorised Officer decides to mark a bull as not being up to licensing standard the mark shall consist of the letter "R" or such other mark as may be decided upon by the Ministry, and shall be tattooed on the left ear or other appropriate place.

XII. APPEALS.

12. Where the Ministry refuses to grant or transfer a licence in respect of any bull or suspends or revokes any licence, or requires the slaughtering or castration of any bull the owner of the bull may within a period of fourteen days from the date of service on him of notice of such refusal suspension or revocation, or of order to slaughter or castrate, and on payment to the Ministry of a fee of £2 2s 0d lodge an appeal in the form or to the effect stated at (d) in the Schedule to these Rules against such refusal, revocation, suspension or order, with the object of having the bull inspected and examined by such member or members of the Panel of Referees appointed under the Act by the Governor of Northern Ireland as may be selected by the Ministry.

The fee payable on an application under this Rule shall if the Ministry does not confirm the decision to which the application relates be returned to the applicant by the Ministry.

XIII. CHANGE OF OWNERSHIP, DEATH OR CASTRATION OF BULL.

13. Notice of any sale or hiring or other change in the ownership or control of a bull in respect of which a licence or a permit is in force or of its castration or death shall be given by the owner to the Ministry within seven days of such sale, hiring or change of ownership or control. Such notice shall be in the form or to the effect stated at (e) in the Schedule to these Rules, and shall be delivered at or forwarded by post to the Ministry's Head Office in Belfast.

XIV. SURRENDER OF LICENCE OR PERMIT.

14. The owner of a bull in respect of which a licence or permit was issued shall, in the event of the licence or permit having expired or being revoked, suspended or cancelled, return such licence (together with the certified copy, if any) or permit to the Ministry within seven days from the date of expiry thereof, or within seven days from the date of service on him of notice of revocation, suspension or cancellation of such licence or permit.

XV. REVOCATION OF PREVIOUS RULES.

15. The Live Stock Breeding (Northern Ireland) Rules, 1923 and 1924 (Statutory Rules and Orders of Northern Ireland, numbers 59 of 1923, and 67 of 1924) are hereby revoked as from this date, but such revocation shall not:—

- (1) affect the previous operation of those Rules or anything duly done or suffered thereunder; or

- (2) affect any right, privilege, obligation, or liability acquired, accrued or incurred thereunder; or
- (3) affect any penalty incurred in respect of any offence committed against those Rules; or
- (4) affect any investigation, legal proceeding or remedy in respect of any such right, privilege, obligation, liability or penalty as aforesaid; and any such investigation, legal proceeding or remedy may be instituted, continued or enforced, and any such penalty may be imposed, as if these Rules had not been made.

XVI. GENERAL.

16. The Ministry may from time to time rescind, amend or vary these Rules or any of them as occasion may require.

In Witness whereof the Official Seal of the Ministry of Agriculture, Northern Ireland, is hereunto affixed this fifteenth day of June, nineteen hundred and twenty-five.

L.S.

(Signed)

JAMES S. GORDON.

Secretary.

The Schedule.

(A)

GOVERNMENT OF NORTHERN IRELAND.

MINISTRY OF AGRICULTURE.

LIVE STOCK BREEDING ACT (NORTHERN IRELAND), 1922.

LIVE STOCK BREEDING (NORTHERN IRELAND) RULES, 1925.

FORM OF APPLICATION FOR A LICENCE TO KEEP A BULL.

I, of

hereby apply in pursuance of the Live Stock Breeding (Northern Ireland) Rules, 1925, for a licence in respect of the undermentioned bull which belongs to me

(1) absolutely

(2) as lessee

(3) as part owner with

..... of

Name of Bull.....Born in.....of the year.....

Breed.....Colour.....Ear Mark (if any).....

Identification Marks

Sire of Bullby

Dam of Bullby

G. Dam of Bullby

Gr. G. Dam of Bullby

Herd Book reference (if any), name of Book

No. of VolumePage

The Bull, if licensed, will stand at.....

which place is situated in the Townland of.....

.....in the County of.....

Name (in full) and postal address of owner

I certify that the foregoing particulars are correct and that I

am prepared to comply with the conditions as to inspection and examination prescribed by the above-mentioned Rules.

I enclose for 5s, being the amount of the prescribed fee for a licence.

Signature of Owner

Address

Nearest Railway Station

Distance therefrommiles

Nearest Post Office

Distance therefrommiles

Centre at which inspection is desired

Distance therefrommiles

Date 19.....

(B)

GOVERNMENT OF NORTHERN IRELAND.

MINISTRY OF AGRICULTURE.

LIVE STOCK BREEDING ACT (NORTHERN IRELAND), 1922.

LIVE STOCK BREEDING (NORTHERN IRELAND) RULES, 1925.

No.....

LICENCE.

THIS IS TO CERTIFY that the undermentioned Bull, of which
 of
 County is or are
 together the Owner(s) within the meaning of the above-mentioned Act, is
 licensed under the said Act.

DESCRIPTION OF BULL.

Name Breed Age

Colour..... Ear Mark.....

Identification Marks

Dated this..... day of..... 19.....

Registrar.

Secretary.

(C)

GOVERNMENT OF NORTHERN IRELAND.

MINISTRY OF AGRICULTURE.

LIVE STOCK BREEDING ACT (NORTHERN IRELAND), 1922.

LIVE STOCK BREEDING (NORTHERN IRELAND) RULES, 1925.

Entry No.....

APPLICATION FOR PERMIT TO KEEP (AN) UNLICENSED BULL(S)
WHILE BEING FATTENED OFF FOR SLAUGHTER.

I,
 of
 hereby apply for (a) Permit(s) to keep the undermentioned Bull(s) on my
 premises at
 while being fattened off for slaughter.

I enclose for being the amount of fees at the
 prescribed rate of 1/- for each Bull.

Signature of Applicant

Full Postal Address

Date.....

DESCRIPTION OF BULLS.

No.	Name	Breed	Age	Colour	Ear Mark (if any)	Identification Marks
1						
2						
3						
4						

(D)

Entry No.
 GOVERNMENT OF NORTHERN IRELAND.
 MINISTRY OF AGRICULTURE.
 LIVE STOCK BREEDING ACT (NORTHERN IRELAND), 1922.
 LIVE STOCK BREEDING (NORTHERN IRELAND) RULES, 1925.
 NOTICE OF APPEAL

I,
 of
 being the Owner of the undermentioned Bull hereby appeal against (state reason
 for appeal
 and apply to have the Bull aforesaid inspected by a referee or referees selected
 by the Ministry in accordance with the provisions of the Live Stock Breeding
 Act (Northern Ireland), 1922.

I attach hereto for Two Guineas being the appeal
 fee prescribed by the Live Stock Breeding (Northern Ireland) Rules, 1925.

DESCRIPTION OF BULL.

Name Breed Age
 Colour Ear Mark
 Identification Marks
 Owner
 Date 19.....

The Secretary,
 Ministry of Agriculture, Northern Ireland,
 Wellington Place, Belfast.

(E)

GOVERNMENT OF NORTHERN IRELAND.
 MINISTRY OF AGRICULTURE.
 LIVE STOCK BREEDING ACT (NORTHERN IRELAND), 1922.
 LIVE STOCK BREEDING (NORTHERN IRELAND) RULES, 1925.
 NOTIFICATION AS TO CHANGE OF OWNERSHIP, DEATH OR
 CASTRATION OF A BULL FOR WHICH A LICENCE OR PERMIT
 HAS BEEN ISSUED.

I,
 of
 being the Owner of the Bull described below in respect of which a Licence
 No dated 19..... was issued,
 hereby give notice to the Ministry that on the day of
 19..... the said Bull

- (1) was sold to
- (2) was let for a period exceeding one month
 to
 of
- (3) Died
- (4) was castrated
- (5)

I herewith return the above-mentioned Licence No. together
 Permit
 with the certified copy thereof.

Signature of Owner
 Address

Date 19.....

DESCRIPTION OF BULL.

Name Breed Age
 Colour Ear Mark